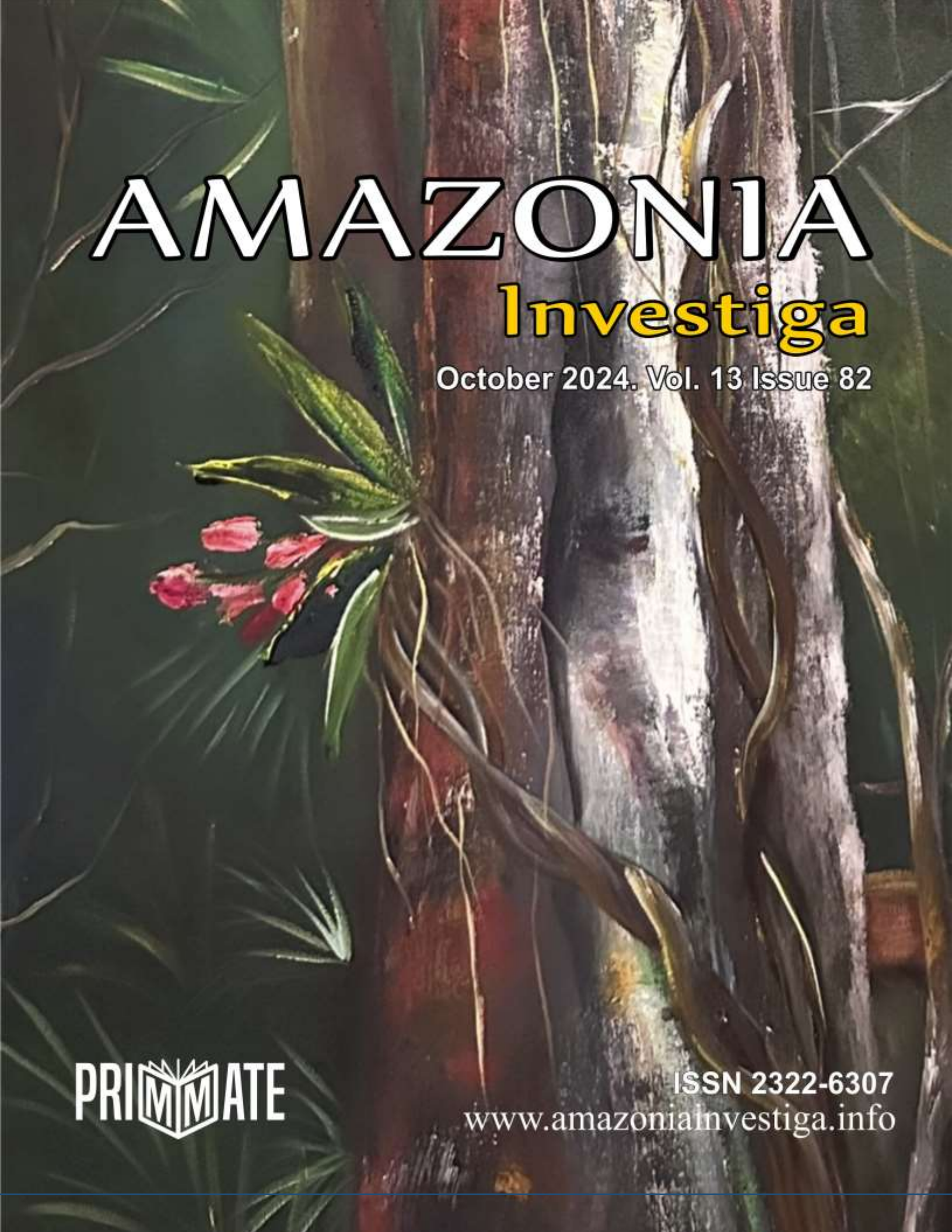




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"Science advances not only by expanding our knowledge but also by revealing the beauty and complexity of the universe we inhabit. Today we celebrate the tireless commitment of researchers who seek answers and solutions to improve our world."

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Modern Architecture and Sustainability: A Retrospective Review (1910-1940)

Modern Mimarlık ve Sürdürülebilirlik: Geriye Dönük Bir İnceleme (1910-1940)

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Abstract

The possibility of seeing modern-period structures starting from the 1900s in countries with different cultures in the world. Investigating the architectural criteria for residential buildings constructed between 1910 and 1940 in various nations in compliance with modern architectural approaches and sustainability parameters is the main objective of this study. The 3 residential buildings investigated within the scope of the research were assessed based on economic, environmental cultural, and social, sustainability parameters. A methodology regarding theoretical and analytical approaches was applied within the scope of the study. The collected data were evaluated regarding sustainability parameters, function, construction, and form of selected modern period houses in the framework of sustainability parameters and modern architectural approaches. Within the residences under analysis, Functionalism De-Stijl, International Style, Cubism, and Purism approaches arise as architectural criteria. In the context of the research's outcomes, it has been showed that the parameters of sustainability that appeared in the modern period are directly connected to the principles, ideas, and approaches of the modern period. In this regard, modern architectural criteria should be included in and implemented in today's sustainable designs. Considering the criteria and approaches that emerged in the modern period, it is aimed to contribute to the literature by applying

Özet

Dünyada farklı kültürlerle sahip ülkelerde 1900'lü yıllardan başlayarak modern dönem yapıtlarını görmek mümkündür. Bu çalışmanın temel amacı, 1910-1940 yılları arasında dünyanın farklı ülkelerinde inşa edilmiş konut yapılarının, modern mimari yaklaşımlar ve sürdürülebilirlik parametreleri doğrultusunda mimari kriterlerini araştırmaktır. Çalışma kapsamında incelenen 3 konut yapısı sürdürülebilirliğin parametreleri olan ekonomik, sosyal, kültürel ve çevresel açıdan değerlendirilmiştir. Çalışmada teorik ve analitik yaklaşımlara dair bir metodoloji uygulanmıştır.. Toplanan veriler, sürdürülebilirlik parametreleri ve modern mimari yaklaşımlar bağlamında seçilen modern dönem konutlarının sürdürülebilirlik parametreleri, işlev, konstrüksiyon ve formu açısından değerlendirilmiştir. İncelenen konutlarda mimari kriter olarak İşlevselcilik De-Stijl, Uluslararası üslup, Kübizm ve Pürizm yaklaşımları öne çıkmaktadır. Araştırma sonucu ortaya çıkan bulgular bağlamında modern dönemde ortaya çıkan sürdürülebilirlik parametrelerinin, modern dönemin ilke, fikir ve yaklaşımları ile doğrudan ilişkili olduğu ortaya çıkmıştır. Bu bağlamda, günümüz sürdürülebilir tasarımlarında modern mimari kriterlerinin entegre edilmesi ve uygulanması gerekmektedir. Modern dönemde ortaya çıkan kriter ve yaklaşımlar dikkate alınarak, günümüzde tasarlanacak konut yapılarında sürdürülebilirlik parametrelerinin uygulanmasıyla literatüre katkı sağlanması amaçlanmaktadır.

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sustainability parameters in residential buildings to be designed today.

Keywords: Modern Architectural Approaches, Modern Houses, Modern Architecture, Sustainability Parameters.

Anahtar Kelimeler: Modern Mimarlık, Modern Evler, Modern Mimari Yaklaşımları, Sürdürülebilirlik Parametreleri.

Introduction

Modern ideas and concepts in architecture first surfaced in the 20th century, along with the introduction of creative architectural designs and the presentation of cutting-edge examples in both practice and discourse (Beyaz & Erçin, 2023a). It is clearly seen that there were significant breakthroughs, from the breaking of an atom to Einstein's Theory of Relativity in the twentieth century, while the art of painting, which is closely related to architecture, started to take a basic and abstract approach. Modernism was described as a worldwide movement that impacted architecture, visual arts, theater, music, and Western literature in the second part of the nineteenth century, as well as art in the twentieth century (Frisby, 2004), (Beyaz & Erçin, 2023b).

New approaches appeared in the context of "modern architecture". These approaches are employed in a variety of architectural applications throughout different countries. Functionalism, Purism De-Stijl, International Style, and Cubism were some of the approaches that gave the architectural designs of the time a new appearance. Modern architecture encompasses a variety of approaches as well as includes several criteria. The modern period has come to the fore through designs prioritizing functional forms, wide wall openings, open floor plans, straightforward lines, clean, and combining modern and traditional building materials. Sustainability initially appeared throughout the course of the modern era's expansion and progress, and it has since surpassed modernism in the framework of technological, economic, social, cultural, urban development, and environmental. Sustainability, which has been closely related to architecture, adopts environmentally friendly design strategies, preserves an existing structure approach while permitting long-term use of the newly constructed building, and adopts and incorporates all of this explicitly into the design.

It has been observed that the houses built in different countries of the world during the modern architecture period were built by taking into account the living conditions of the users as well as environmental and societal issues. Due to societal events, a profound change was observed during this time, and everything previously understood about how the human mind perceives reality was completely upside down.

The main problem that emerged as a result of the research and observations is the possibility of buildings and their surroundings bearing the characteristics of the modern period losing their cultural values and sustainability by remaining unmaintained for a long time. Buildings that lose their identity in the modern period lose their value, are exposed to many different functions, and lose their historical identity and cultural heritage.

Within the scope of the study, these houses, which were built between 1910-1940 and have the distinctive architectural features possess the characteristic modern architectural elements and were built utilizing a reinforced concrete building method that spans two to three stories. It was observed that the design of these houses was created by bringing together basic geometric shapes. The exterior and plan designs of the residences under examination incorporated modern period styles such as Cubism De-Stijl, Functionalism, Purism, and International. In this regard, the houses under examination were assessed based on modern architectural criteria, architectural approaches, and sustainability considerations.

The Research Objectives

In the extent of this study, through the design of the chosen houses, it seeks to analyze the architectural principles by exposing the original identity of the modern period. The primary goal of this research is to present the economic, social, environmental, and cultural circumstances of the houses under investigation within the framework of sustainability parameters. The study highlights how sustainability and modern architectural principles and approaches are related. There are many common points between modernism and sustainability. Therefore, the current examination of the chosen dwellings was presented by examining sustainability parameters and modern-period criteria combined.

Literature Review

Modern, Modernity and Modernism

Unlike other eras, the word "modern" is derived from the Latin word "Modo," meaning "Today." The word "modern" is highly helpful in all facets of daily life and has been used in numerous contexts to differentiate between traditional and modern ways. (Azizi & Eshaq, 2022). According to the definition of the term of "modern" is used to define the time period from the medieval period and subsequent periods, the social transformation that persisted after the start of the Renaissance and reform movements. However, these times are now defined as classical or nostalgic. Due to this circumstance, the definition of the modern notion now calls for a standard that takes into account the way of life of modern, developed societies. In this context, the term modern, which is utilized to define the transition between "old" and "new," has been attempted to be equal to today's usage by dividing the domains of culture, science, and art (Benian, 2010).

The idea of modernity is frequently used to define the current state of the globe in contrast to prior epochs or more rudimentary existent civilizations. It frequently takes the place of ideas like industrialization, capitalism, reason, secularism, media, and communication society, as well as other organizational or ideological qualities (Madsen, 2014).

Modernism is a new point of view, a development in culture, and a new way of living. Modernism is a response to Middle Ages thought and behavior. Modernism has a logical, forward-thinking, and positivist viewpoint; in this way, it is similar to Enlightenment philosophy. Modernism has been described in a variety of ways; for instance, Faulkner Peter defined it as all the different styles of art that developed in the twentieth century (Barzinji, 2013). Modernism, which is commonly used as a synonym for both modern architecture with functionalism, is basically an architectural style that favours the use of the plain form over adornment in structures. In response to changing needs and a rapidly growing population, simple constructions resulted (Menga, 2022).

Modern Architecture

Modern architecture was thought to have its beginnings in the 19th century in the industrial revolution with the subsequent introduction of mass production, which sparked a widespread dislike of historicism, fascination with functionalist planning, and utilization of modern building materials and cutting-edge technologies (Ali, 2018; Arenibafo, 2017).

The modern movement starts when sculptors and painters start to gravitate more and more toward industrial design. The modern trend first emerged in England and evolved into fashion with the designers' ideas. After England, it started to develop widely in Germany and the United States. Due to the congruent efforts of the modern movement's founders, this movement has evolved into a universal movement. As a worldwide architectural approach, it has also gained widespread (Biçer, 2006). In the 20th century, novel and distinctive theories, inventions, and works of art were created in the fields of science, philosophy, architecture, and art. Especially towards the start of the twentieth century, it can be observed that art, science, and also architecture evolved collaboratively by influencing one another. It has a close relation to social, political, economic, aesthetic, and technological aspects as well as factors of ideology and science (Benian, 2010).

Modern architecture, which arose in reaction to 19th-century design, has given the physical environment a variety of unique meanings by exhibiting features like glass surfaces, open floor plans, and functionality. Modern architecture emerged as a result of a shift in architectural thought away from historicism and toward openness. Early modernism pioneers included Frank Lloyd Wright, Walter Gropius, Auguste Perret, Peter Behrens, Adolf Loos, Le Corbusier, and Mies van der Rohe (Moffett et al., 2003), (Beyaz, 2023).

One of the most important architects of the twentieth century, Adolf Loos, promoted simple, ornament-free architecture and emphasized that architecture should have a functional purpose. Additionally, Loos rejected the symbolic elements of the structures and stated that they should be constructed economically and with societal appeal (Birol, 2006). The "Raumplan" (volumetric plan) notion that Loos introduced revolutionized architecture. Le Corbusier eventually interpreted this as the "Freeplan" (free plan). Purist techniques have also been based on the ornamentation from Loos' designs, employing pure forms of materials, and emphasizing space (Frampton, 2007).

The forerunners of the modern movement constructed a number of iconic new white structures in the 1920s: Mies van der Rohe constructed the German Pavilion in Barcelona, Gropius created the Bauhaus school building, and Alvar Aalto created Gropius' hospital and private home. Nicholas Pevsner, a well-known historian of the modernist movement, likewise admired the cold and impersonal nature of new abstraction (Zhao, 2021).

Modern Architectural Approaches

The emergence of various ideas, perspectives, and notions a new era in the period of modern architecture began. With this period, Modern Architecture has different architectural approaches that are parallel or opposite to each other. These approaches served as the foundation for modern architecture and have basically adopted the same idea by directing the designs. Within the scope of this research, Functionalism De-Stijl, Cubism International style and Purism, which are modern period approaches, come to the fore in the 3 residential buildings examined.

A structure is the consequence of a function if it best serves the objective for which it was designed to be employed. The most pertinent kind of architecture is one that derives a structure's personality, from its purpose from the reason it was designed or constructed (Żychowska, 2019). Examples of functional shortcomings include the layout of a building and the color, comfort, and shape of its areas. Additionally, maintaining the integrity of a structure while striking a balance between form and function is the essential goal of architecture (Schumacher, 2002). During the early Modern period, L. Sullivan's dictum "The form follows the function" resonated uniquely with functionalism concepts (Nia, & Rahbarianyazd, 2020).

De-stijl approach started as a periodical that aimed to improve the general public's access to art. Supporting the integration of the arts, the publication primarily featured the works of visual artists, designers, and other artists. The artists felt that it was crucial to understand many disciplines (such as painting, architecture, sculpture, etc.) at their most fundamental levels in order to cleanse them and then merge them in a way that was harmonious. (Holdren, 2016). The main characteristic of De Stijl is its pure universality, which is attained by reducing elements to their most fundamental shapes and hues. This is particularly evident in the usage of horizontal and vertical lines together with primary colors, black, and white (Blotkamp, 2001).

Purism, stated by Carol S. Eliel, originated in 1918 as a reaction to the both social and artistic circumstances of the period (Eliel, Ducros, & Gronberg, 2001; Simic, 2006). Le Corbusier first learned about the post-Cubist avant-garde through Ozenfant, who also introduced him to some of its key figures, such as the painter Fernand Leger. Le Corbusier succeeded in reuniting the broken universe of cubist paintings into polished creations of artwork that were machined with mathematical in their accuracy. During the 16th through the 19th centuries, the more noble aspects of nature held the position in still-life paintings that was later raised by purism to mass-produced items of daily life (Slutzky, 1987; Shannon, & Shannon, 2020). These key figures frequently occur in their Purist artwork and were closely related to Le Corbusier's future construction. The plans, sections, with facades on his interiors and structures, were influenced by the shapes, colours, and spatial arrangements of his artwork (Shannon, & Shannon, 2020). Purism has been more steady, symmetrical, and deductive due to its use of pure and geometrical shapes.

Cubism was one of the trends in art that challenged the Naturalist conception of art and introduced a fresh perspective on form.

Cubists subscribed to the principle of rejecting the apparent reality. They behaved rationally and analytically, in contrast to German expressionists who tried to develop topics and forms through emotions (Krausse, 2005). Cubism is based on the principle of separating the object into parts and putting it back together with a different interpretation. In the process of reassembly, two different methods are applied. These; Geometric pieces obtained from the analysed shapes are either sprinkled on the canvas or stacked on top of each other. As a result of both methods, the object loses its original form and becomes unrecognizable, and turns into a new object consisting of a series of interlocking geometries. Based on this, in cubist painting, the same objects are drawn on top of each other with different viewing angles, emphasizing the relativity and variability of time and space (Birol, 2006). Its utilization of space is as fluid as an endeavor that evolved project over time was Cubism. It achieved greater abstraction and universality the further it deviated from early pieces like Picasso's *Demoiselles d'Avignon* (1907) (Haftmann, 1960; Falcetta, 2007). Picasso went one step further by emphasizing the complex web of relationships between volumes and spaces as well as the tenuous connection between transparency and solidity, transforming their

ambiguities into contradictions and shattering any illusion of spatial coherence (Cottingham, 2004; Diamond, 2011). Leger's wheel, Picasso's illustration of a nose, Cezanne's pipe, and Gris's bottle shapes are all comparable to what Le Corbusier looks for in a cube. In addition, cubism had an impact on Frank Lloyd Wright as well. The Robie House, his first real masterpiece, was built from 1908 to 1910 outside of Chicago and is the best illustration of this ground-breaking use of architectural space (Sherry, 1985; Wadsworth, 2011).

Johnson Philip Cortelyou who is an American architect is credited with creating the International Style, often known as American Rationalist European Architecture or International Modern. Johnson Philip Cortelyou belongs to a second generation of notable American architects, which also included Henry Hitchcock, Paul Rudolph, Kevin Roche, and Eero Saarinen. American architects had a reputation for being formalists, refiners, and redefinitionists. Le Corbusier, Mies Van der Rohe, Frank Lloyd Wright, and others made up the first generation. Johnson coined the phrase "International Style" to describe what they saw as significant changes in modern architecture that were moving toward designs for buildings that were straightforward, unadorned, and explicitly displayed their structural elements using contemporary materials. "International style" and minimalist aesthetics conception Around 1900, there was a lot of debate in Europe about the function of architecture and designers in society. Every good architect is also an outstanding poet, according to Frank Lloyd Wright. Wright must be a superb, sincere interpreter of his period. There was growing criticism of ornament usage overall as well as ornament overuse. The nineteenth-century architecture is harshly attacked from a variety of angles because it employs modern technologies but does not fundamentally relate to them. It was agreed upon during these conversations that it was vital to employ fair materials that weren't embellished with plaster or paintings. According to architects, a building's beauty is found in its usefulness rather than how it is decorated. The proponents of this concept were Mies van der Rohe, who stated that "Less is more," Frank Lloyd Wright, who remarked that "Five lines where three were enough is foolishness," Adolf Loos, who wrote a book titled "Ornament and Crime" and others (Proskuryakov et al., 2018). The best of the International Style's examples are Le Corbusier's Citrohan House (1922), Gropius' Bauhaus Design School in Dessau (1925-26), Richard Neutra's Lovell Health House in Los Angeles (1927-1929), Mies van der Rohe's German Pavilion at the Barcelona World Exhibition (1929) can be counted among her pioneering works (Erenler, 1997).

Sustainability and Sustainability Parameters

The words "sustainability" and "sustainable" refer to the capacity to create and preserve settings in which nature and humans may live while meeting the demands of both the current and future generations in terms of economic, social, and other aspects (Office of the Federal Register, 2009; Fiksel et al., 2012). A sustainable way of living optimizes social, environmental, and economic factors while accounting for long-term and indirect repercussions (Litman, 2010). The threat of environmental contamination and the depletion of natural resources has been brought on by the rapid rise in global population and consumption, as well as technological advancements. The idea of sustainable development has been viewed as one that stops social and environmental advancements while providing economic benefits to the raw material processing that began with the industrial revolution and continues now (Meadows et al., 1972; Duran, 2018).

Up until the latter half of the 20th century, environmentalism and the protection of the natural world were the concept and main goals of sustainable development. Throughout history, there has been and will always be a relationship involving man and the environment. These relationships increased, and it can be observed that human actions have proven detrimental to nature, especially since the industrial development that occurred in the 19th century (Eş, 2008). The panel on the path to sustainable growth on an international level about environmental concerns convened in Founex, Switzerland, in 1971 was the first to discuss both the development and protection of the environment together side. The production and consumption patterns of industrialized nations, poverty, and underdevelopment are all cited in the report that was written up following the meeting as contributing factors to environmental issues. This outcome, which forms the basis of the sustainable development paradigm, led many poor nations to take part in the 1972 Stockholm "Human and Environment" conference (Erdem et al., 2004). The Rio Declaration was published by the UN in 1992. This proclamation proposes identifying priorities and trade-offs while balancing the economic, environmental, and social facets of sustainability (Manzi et al., 2010; Yenidünya, & Limoncu, 2020).

The four primary pillars of sustainability are social, cultural, economic, and environmental sustainability (Beyaz & Erçin, 2023b).

Out of the economic, environmental, and social pillars of sustainability, the social pillar has had the least amount of research, but it did receive greater attention after 2000 (Doğu, & Aras, 2019; Dempsey et al., 2011). Ensuring fair provision for people's socio-cultural and spiritual needs is the aim of social sustainability. Each person has unique demands, which vary depending on the status of society at the time (Assefa & Frostell, 2007). The Brundtland Report, *Our Common Future*, defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition is used by many people who use the phrase "social sustainability" (McKenzie, 2004). Given that the aim of sustainable development is to improve people's quality of life in both the environmental and social environments, it may be argued that social sustainability is one of the most significant aspects of sustainability. Stress levels among employees, job satisfaction, and aspirations toward attaining sustainability are all markers of social sustainability (Popovic et al., 2013).

The most complex of two or three challenging terms, according to cultural sustainability, is culture (Williams, 2014; Soini, & Dessein, 2016). Culture is made up of a society's beliefs, values, customs, and aspirations as well as the ways in which those values are articulated and practically implemented in day-to-day activities (Hawkes, 2001; Pop et al., 2019). According to Hawkes (2005), culture does in fact have a transformative effect on present development strategies, assisting in enlarging the scope of the present-day development discussion and increasing the relevance of development to the requirements of the general public (Hawkes, 2005; Naibei, 2014). Furthermore, an approach based on human rights that respect cultural diversity can promote intercultural understanding, avert conflicts, and defend the liberties of marginalized groups both within and across national boundaries, fostering the ideal environment for the achievement of development objectives. This understanding of culture increases the sustainability of development (Hawkes, 2005; Naibei, 2014).

The term "environmental" is almost always used in reference to human interactions with ecosystems. It appears appropriate to see "environmental" as a part of the broader notion of "ecological," that is, as the intersection of natural processes and human activity, in order to increase certainty (Jeronen, 2023). Hence, environmental sustainability could be defined as a condition of balance, flexibility, and interdependence that enables human society to meet its demands without exceeding the ability of the ecosystems that sustain it to continue producing the services needed to do so (Jeronen, 2023). An environment is considered sustainable nowadays if it leaves the planet in a more productive state or better for generations to come (Boström, 2012).

The sustainability of the economic system itself is what "economic sustainability" seeks to achieve. The term "economic sustainability" was initially used by Hicks (Bernardi, 2015). Economic sustainability is concerned with the real economic impact on its economic environment, according to Bernardi et al. (Bernardi et al., 2017; Ozay, 2005). Researchers contend that the developing discipline of sustainability economics could be characterized by four key characteristics by interpreting the current economic contributions in light of the general concept of sustainability (Baumgärtner & Quaas, 2010). These are;

1. The link between people and nature is the main topic of discussion.
2. A focus on the future, which is long-term and intrinsically uncertain.
3. A normative basis based on the concept of justice between humans and the natural world, as well as between current and future generations.
4. An emphasis on economic efficiency, which is defined as not wasting resources, in the distribution of natural goods and solutions as well as their man-made complements and replacements (Beyaz, 2023).

Sustainability in Architecture

The term "sustainability" in architecture refers to future-focused design and development. Architecture that is sustainable combines human and technological goals. The International Council on Building (CIB) established the goal of sustainable architecture as building and innovating a synthetically healthy environment founded on ecological design with resource efficiency in 1994. A structure that is sustainable is one that can best adapt to its surrounding natural and manmade environments. This includes the building itself as well as the local, national, and international environments (Mofidi Shemirani et al., 2008; Soflayi 2006; Zabihi & Habib, 2012).

According to Owen and Dovey, in order to develop sustainable design, "both sustainability with architecture as social practice" must be positioned (Owen & Dovey, 2008; Elkady & Goubran, 2022). Guy

and Frammer argue that a social constructivist point of view should be adopted in place of the positivist tenets that support sustainable design practice and research (Guy & Farmer 2001). Despite the fact that modernism appeared before sustainability as we know it today, both ideas share a fundamental ethos (Elkady & Goubran, 2022).

The providing its occupants with secure and comfortable living spaces, sustainable architecture is defined as a design for buildings that preserves the environment by using natural resources as little as possible. In this situation, the aspect of sustainable development that should be taken into account is architecture. By designing and developing sustainable structures, adhering to sustainability principles at each phase of construction, with continuing the procedure at the end of usage, architecture will be able to contribute to sustainable development (Canan, 2003). In order to be sustainable, architecture must include ecology at all stages of design and construction. This includes using resources that are renewable, energy-efficient technologies, materials that are environmentally friendly, recycling, and reuse activities (Üstün, 2009).

The main objective of sustainable architecture is to balance development, social equity, ecology, and economy while still providing for human needs. Today, methods known as ecological, bioclimatic, and energy-efficient design or architecture which essentially serve the same functions and concentrate on particular subjects are widely used, especially in accordance with the individual approaches of designers and users (Sakinç, 2006).

Methodology

The research methodology was presented by examining the architectural approaches, criteria, and sustainability framework of the modern period of residential buildings in different countries of the world with the data collection method. Then, the modern period was investigated in the context of residential buildings selected from different countries of the world and how it developed was explained. The residential buildings built between 1910 and 1940 in the modern period are among the residential buildings that best reflect and emphasize the architectural criteria and approaches of the modern period. At the same time, they are the houses that have a direct relationship with the sustainability parameters that emerged years later. For this reason, Steiner House, Schröder House, and Fallingwater House were selected within the scope of the study. Theoretical approaches were used in the context of sustainability parameters and approaches of modern architecture in 3 residential buildings chosen and observations and analysis approach evaluation methods were used during the data collection phase. While the data was analyzed, functions and the typologies of the plans of the houses were determined, and architectural criteria were determined within the framework of sustainability parameters and modern architectural approaches. Consequently, this study demonstrates the connection between sustainability and modern architectural approaches and criteria. It also emphasizes the necessity of evaluating modern architectural approaches and criteria together with sustainability parameters.

Results

The 20th century has been a period in which new theories and concepts emerged in the field of architecture, innovative examples were presented in architectural discourse and practices, and architectural designs began to be simplified. At the same time, developing technology, science, philosophy, art, and economy around the world have been influential in the change of societies and the emergence of new thoughts and ideas.

Different design approaches, which started with the industrial period and emerged with the modern architectural period, caused the architectural criteria to develop and change. According to these changes have also started in architectural spaces. With the emerging architectural approaches, these changes show themselves in the spaces. With the modern architectural period, the design fiction of the buildings and the relationship between interior and exterior began to be considered as a whole. In this context, many modern period architects responded to these criteria and approaches in the buildings they designed in this period. To accomplish the study's goal, three modern-period houses that were relevant to the study area's boundaries were chosen, and these houses were assessed using sustainability parameters as well as modern-period approaches and criteria. The sample houses selected in relation to the subject will be analysed with a systematic approach. These will be assessed based on their material, form, and function in terms of architectural criteria, and social, economic, cultural, and environmental in terms of sustainability.

According to this research's findings, the Steiner House, Schröder House and Falling Water House were analyzed.

Examining the different examples related to the subject will strengthen the study. In this context, it will clarify the relationship between this type of modern period houses and the criteria and sustainability parameters of the period. At the same time, it will create a foreword on how the criteria and approaches of houses will be evaluated with sustainability parameters for the selected houses.

Modern Architectural Approaches and Sustainability for Steiner House (1910)

Adolf Loos has become a well-known architect for his simple, compact constructions. The Steiner House, which is regarded as one of the most iconic structures of European modernism, was constructed in Vienna, a city with strict planning regulations (Irving, & St John, 2007). Adolf Loos, a critic of the modernist movement, is regarded as one of the forerunners of modern thought thanks to the idea of the free plan. Due to the Steiner House being the first building that sparked the growth of the ideas of freedom and the plan of multitudes. Adolf Loos' theories are reflected in the House's architecture. It is built on a hill with a plain surface and big windows, and its roof is made of a combination of wood, concrete, and curved metal. The structure is an unadorned, symmetrical bulk, and both its front and back facades lack ornamentation. The house is displayed as an illustration of the International Style in 1930s architecture as a very simple concrete building with a smooth, basic, and simple facade with sharp rectangular lines (Khan, 1998; Frampton, 2007).

The Steiner House, with its refusal of ornamentation on the facades, its windows that are simply constructed and arranged with exact lines, and its cubic shape, is the first modern structure to be designed in Vienna in the entire history of twentieth-century architecture. Three main floors, plus a basement floor make up the structure. Loos created a mansard roof and opened a rooftop window on the house's street-facing facade. He also curled the roofing to the ground (Vergo, 1981; Benian, 2010). The basement floor's roof was elevated using the whole width of the home to create a terrace on the back facade that looks out onto the garden and is directly accessible from both the primary living with dining areas. The Steiner House's interiors have a more luxurious appearance thanks to the extensive use of wood for the doors, windowsills, cladding, and ceiling grids. By not resembling numerous designs from that era, this design technique has produced a unique piece. (Moffett & Fazio, & Wodehouse, 2003).

Steiner House is located both on foot and by car, access is simple. Additionally, it has a positive social and economic impact on the area. The design is a valuable building in the context of sustainability because of all of these features. The structure still reflects the modern architectural approaches it has quite well, and it is protected sustainability. It has elements for social sustainability like density, neighbourhood relationships, walkability, and vehicle transportation. When examined in terms of cultural sustainability, Steiner House's design, use of modern materials, and architectural technique all reflect the time period's distinctive architectural identity. Due to the strength and environmental friendliness of the modern materials used for the construction of Steiner House, they have been preserved up to this day without degrading. Steiner House, which was designed and built in the modern period, was designed as a house. Today, it still preserves its cultural value as a house and is visited by tourists. The building, which upholds the values of society and culture, continues to be economically sustainable today. The building's location in a tourist, friendly city raises the value of the surrounding, land property, residential, and commercial. Thus, it continues to be economically sustainable while maintaining its environmental sustainability. See Table 1.

Table 1.
Modern Architectural Approaches and Sustainability for Steiner House (1910)

Austria/Vienna - 1910 - Adolf Loos House		
 Plan (Architectuul, 2023)	 Entrance Facade (Architectuul, 2023)	 Interior Spaces (Architectuul, 2023)
 Section (Architectuul, 2023)	Form analysis	Steiner House has been simplified in the form of a mass and designed symmetrically and simply with the free plan technique. It is without decorations and has the shape of a plain white cube. The interior spaces are designed as open, flowing into each other. Being one of the prototypes of early modernism, Steiner House carries the approaches of, cubism, functionalism, international style, and purism.
	Function	Steiner House, which was designed as a house, is now a residence and opened to tourists.
	Construction	The house is designed from concrete and wood materials. The roof is made of sheet metal and the walls are made of concrete and brick.
Sustainability Parameters		
 Axonometric drawing (Architectuul, 2023)	Social Sustainability	Social sustainability parameters for Steiner House' are accessibility, walkability, transportation, and car accessibility are some of the requirements.
	Cultural Sustainability	Steiner House is a crucial historical-cultural value in the perspective of cultural sustainability since it shapes Vienna's architectural character in terms of construction method, construction style, and structural form.
	Environmental Sustainability	The Steiner House was constructed with the environment in mind. Given that they were created as ecologically friendly building materials, the materials utilized to construct this house preserve their environmental sustainability.
	Economical Sustainability	Steiner House raises the worth of the nearby land and of residential and business properties while yet ensuring economic sustainability. While maintaining its social, cultural, and environmental sustainability, it continues to contribute to economic sustainability.

Source: (Author, 2023).

Modern Architectural Approaches and Sustainability for Schröder House (1923)

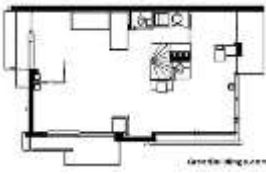
The Schröder House, which Gerrit Rietveld built in Utrecht in Netherlands in 1923, is regarded as the De Stijl approach's most iconic building, and its outside has been compared to Piet Mondrian's artwork (Kortan, 2000). Based on the disintegration notion of a cube, the house's harmony is provided by the horizontal and vertical harmony of the colors and materials with geometric forms. The De Stijl approach's architectural philosophy is based on the idea that a building and a free plan system should first be divided into its areas, and to carry these spaces should be reassembled in an arbitrary order (Gürer, 1995). The front side of the balcony faces the southeast facade, and the glass-only roof hung over the east corner gives the appearance that it is floating in space. A 90-degree angle connects the windows which open outward to the façade, which is bordered by trees of various colours (Leuthauser, 2001).

The Schröder House, which had been designed to be a private house, was later placed under UNESCO's protection. According to the 1988 Monuments and Historic Buildings Act, the Rietveld Schröder house is recognized as a national heritage monument. The adjacent region is designated as a green space. In cooperation with the Rietveld Schröder Home Foundation, the Central Museum, and the city Museum of Utrecht, manages and maintains the house (Van Thoor, 2019). The house is formed up of both horizontal and vertical planes that are painted white or grey, rather than just made up of walls and a roof. Contrary to popular belief, the walls are composed of plastered brick rather than concrete. Some balconies have projecting walls composed of reinforced concrete (Leuthauser, 2001). Similarly radical and Mondrian-like is the use of colour. All linear components are painted in strong hues like red, blue, and yellow, with surfaces being either white or grey (Curtis, 1996; Leuthauser, 2001; Benian, 2010). The Schröder House is defined as a "whole of art" that combines the visual arts with the built environment (Curtis, 1996).

Schröder House was built in Utrecht. It is easy to reach the location of the house by car and on foot. It makes a social and economic contribution to its location. Because of these features, design is a valuable structure in terms of social sustainability. The building still carries the criteria of modern architecture and continues to function as every house. It has social sustainability criteria such as neighbourhood relations, density, vehicle access, and walkability. Schröder House supports the architectural character of the region in terms of construction method, construction style, and structural form. It is a very important historical-cultural value in terms of cultural sustainability. It is also protected by UNESCO as a cultural heritage. The environment was taken into consideration when building the Schröder House. The materials used to build this home maintain their environmental sustainability because it was designed as environmentally friendly building materials. The Schröder House preserves economic sustainability. It increases the value of land, residential and commercial properties in the surrounding area. While maintaining its social, cultural, and environmental sustainability, it continues to contribute to economic sustainability as it is listed as a cultural heritage and is visited by tourists as a museum. See Table 2.

Table 2.
Modern Architectural Approaches and Sustainability for Schröder House (1923)

Utrecht/ Netherlands - 1923 - Gerrit Rietveld House			
 Ground Floor Plan (Great Buildings, 2021)	 Entrance Facade (Block, 2018)	 Interior Spaces (UNESCO, 2010)	
			

 First Floor Plan (Great Buildings, 2021)	Form analysis	The Schröder House, that embodies every element of the De-Stijl movement, is founded on the idea of initial space division using the free plan technique, followed by an unordered reunification of these spaces. The house contains the plastic building elements of modern architecture such as mass, function, surface, time and space, light, color and material. The house, which is designed on the fragmentation of the cube, is provided by the horizontal and vertical harmony of materials, colors and geometric forms.
	Function	Schröder, which was originally designed as a house, was now opened to tourists as a museum in Utrecht after being restored.
	Construction	The walls are made of plastered brick. Large windows are designed on the facades.
Sustainability Parameters		
 Section (Great Buildings, 2021)	Social Sustainability	The Schröder House meets requirements for social sustainability, accessibility, transportation, walkability, and by car.
	Cultural Sustainability	Schröder House shapes the architectural character of Utrecht in terms of construction method, construction style, and structural form. It is a very important historical-cultural value in terms of cultural sustainability.
	Environmental Sustainability	The environment was taken into consideration when building the Schröder House. The materials used to build this home maintain their environmental sustainability because it was designed as eco-friendly construction materials.
	Economical Sustainability	The Schröder House keeps up economic sustainability. It increases the value of land, residential and commercial properties in the surrounding area.

Source: (Author, 2023).

Modern Architectural Approaches and Sustainability for Fallingwater House (1935)

Wright created The Fallingwater House, a getaway home in Pennsylvania from 1935 and 1939, for Edgar J. Kaufman on a property containing a waterfall. Wright brilliantly reflected organic architectural approach in the construction of this home by placing it atop a flat piece of rocks above the water that was seeping out from beneath it. The House rests on the horizontal axis of the building and is centered on four stone columns. Similar to tables that have been overlay, these planes stretch in all directions. It terminates with a protruding smooth concrete patio. When the dwelling is accessed through a path, its existence is noticed. The house's tight connection to the outside is a notable aspect of the design. The arrangement of the rocks, plants, and water has been planned to look like it belongs inside the house (Prina & Demartini, 2006; Doordan, 2001). The Fallingwater House, in Wright's opinion, perfectly exemplifies the concepts of organic design. On the other hand, Wright defined organic architecture as the home growing naturally from the inside out in balance with its own existence (Benian, 2010).

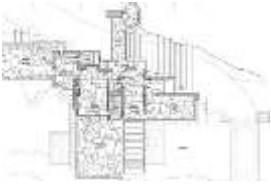
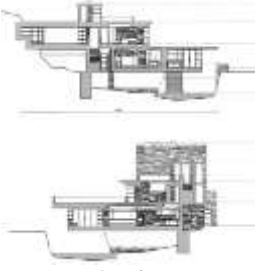
The house's structure lacks curved edges, horizontal eaves, and a hipped roof. On the horizontal plane, white prisms and natural stones intersect the structure. The structure has a system of intersecting horizontally and vertically placed prisms. Wright used geometric shapes and right angles when designing a building, but he also took the waterfall into account. The structure stands out by generating contrast in the surrounding landscape thanks to the horizontal white bands on its façades. Together, the waterfall with the surroundings becomes a whole (Kortan, 1996).

Wright used the 'breaking the box' and De Stijl design philosophies in the creation of this home. Theo van Doedburgh stated in 1924 that he did not attempt to lock different functions in an enclosed cube, instead designing them into planes that project outward. The building is given dynamism by it, as though the functional rooms were being thrown out from the building's center. (Kortan, 1986). Every aspect of this design, from the material selection to the room layout and even the creation of the plan drawings, demonstrates the idea of "breaking up the box" of the house. It has to do with how geometric shapes are arranged both horizontally and vertically in a certain system. These entities seem to have been hurled in various directions after being fragmented by an inner force and its result (Yırtıcı, 1996).

By utilizing earth, fire, air, and water the essential components of life earth and plant science served as the inspiration for designing the Frank Lloyd Wright Fallingwater House. The structure, which was created by combining stone and concrete, has an antique and modern appearance (Doordan, 2001). Located in Ohiopyle, Pennsylvania, Fallingwater House embodies the parameters of social sustainability. It includes parameters such as easy access, walkability, transportation by vehicle, and accessibility. Fallingwater House shapes the architectural identity of Ohiopyle, Pennsylvania. Both its construction technique and building form and its harmony with its environment ensure its cultural sustainability. The building, which has historical cultural value, was included in the World Heritage List by UNESCO in 2019. During the construction of the house, the design was carried out without ignoring its surroundings. It is in close contact with the surrounding land. Eco-friendly building materials were employed to build the house. Thus, its compatibility with the environment is also ensured in terms of materials. The house continues to be environmentally sustainable, as environmentally friendly materials are used in its construction. The house, which is used as a museum, contributes to economic sustainability by gaining even more value thanks to the visitors. In addition, the house also adds real estate value as residential and commercial to the region where it is located. See Table 3.

Table 3.
Modern Architectural Approaches and Sustainability for Fallingwater House (1935-39)

Ohiopyle, Pennsylvania - 1935-39 - Frank Lloyd Wright House		
 Ground Floor Plan (Ruschak, P., 2023)	 Entrance Facade (Creager, 2023)	 Interior Spaces (Perez, 2023)
	Form analysis	The Fallingwater House has a horizontal plan plane. It skillfully reflects the organic architectural style, which is one of the movements of the modern period. In addition, the principle of fragmentation of the box, which is one of the principles of De Stijl, is also seen in the house. Indoor and outdoor are intertwined. The structure includes a set of prism systems and a system that intersects horizontally and vertically.

 First and Second Floor Plan  (Ruschak, P., 2023)	Function	Fallingwater House is a weekend house designed between 1935-1939 on a plot of land with a waterfall in Pennsylvania. The house, which was later transferred to an institution, is now a museum. In 2019, UNESCO added the house to the list of World Heritage sites.
	Construction	There are no curvilinear lines, horizontal eaves, or a hipped roof in the design of the house. The building intersects with white prisms on the horizontal plane and natural stones on the vertical. There are horizontal white bands on their facades. By using a combination of stone and concrete in the building. The concrete staircases and facade also have wide windows. The light-colored concrete railings of the terraces and verandas also draw attention to the house.
Sustainability Parameters		
 Sections (Ruschak, P., 2023)	Social Sustainability	In Fallingwater House, social sustainability criteria are included. Such as accessibility, walkability, transportation, and car transportation.
	Cultural Sustainability	Fallingwater House, Ohiopyle, Pennsylvania's building technique and building form shapes its architectural character. It has a valuable historical cultural value for cultural sustainability.
	Environmental Sustainability	During the construction of the house, the design was carried out without ignoring its surroundings. The materials used in the construction of the house are compatible with its surroundings. Since environmentally friendly materials are used in its construction, the house still maintains its sustainability.
	Economical Sustainability	Housing increases the value of the environment in which it is located. Therefore it contributes to economic sustainability.

Source: (Author, 2023).

Discussion

The study's objective is to analyze the current state of residential buildings constructed during the modern period in various countries worldwide.

Despite the fact that the field of architecture is continually up to date, it does not clash with the idea of sustainability, which is also always evolving, much like architecture. While the concept of sustainability is associated with architecture, it develops in the light of its past and makes architecture rich in terms of structure. The fact that sustainable architecture as a concept has become an important issue is due to the fact that it affects architecture in many ways. Accordingly, Vandevyvere and Heynen (2014) argue that Modernism and sustainability have much more in common than many current debates offer and that it should be examined from a broader perspective by embracing the legacy of modernism, accepting its continuity with the desire to modernize. They also argue that "the convergence between the discourses of modernism and sustainability" and "sustainable modernism" can provide a good paradigm for developing architectural education and architectural culture.

Architectural approaches, which reflect the understanding of design in architecture, are the set of concepts formed by characteristic and periodical features in the definition of buildings. The approaches that arose during the modern era had a significant impact on the evolution of modern architecture and reflected the architectural criteria of the time. Today, it is possible to see that many buildings designed in the modern period have lost their criteria and approaches and cannot maintain their sustainability. Within this regard, it was determined in the findings that when the modern period buildings change their function or are renewed, they will preserve the modern period identity when considered together with the approaches and criteria of the modern period, parameters of sustainability.

With the modern period, Louis Sullivan's (Venturi, 2005) slogan, "form follows function," has become the basic principle of the period, emphasizing that buildings should be designed in accordance with their own nature and special conditions and allowing them to develop logically. Accordingly, Le Corbusier (Venturi, 2005), who said that "the operation of the plan happens from the inside out, it is the result of the external environment" supported Sullivan's words. In this context, the function, which is the determinant of the building forms, has been the most important criterion of the designs. Thus, houses designed with function, which is a defense of the modern period, should respond to the needs of the user, be designed by respecting the location and culture of the region where they are located, and a modern life should be fictionalized. Even though approaches that arose during the modern period provide distinct designs, they basically contain the same ideas and principles. It has emerged in research that many of the buildings designed with the materials that appeared in the modern period and the technique of the period still survive even if they change their functions and are renewed in today's conditions.

It is clearly seen that the residences selected in the study carry the modern architecture criteria (sharp lines, simplicity, geometric forms, and open plan) and approaches (Functionalism, Cubism De-Stijl, Purism and International Style) and sustainability parameters.

Conclusions

This research has demonstrated a strong link between the architectural approaches of the modern period and the principles of sustainable design. By analyzing a diverse range of modern period houses, we identified key features of these approaches, such as being built with an environmentally friendly appearance and being designed to establish a relationship with the interior and exterior environment to create a whole. When we evaluated the building materials used in the design in terms of environmental sustainability, it was observed that they were built with durable and environmentally friendly building materials that contribute to environmental sustainability and resource efficiency. Today, it is possible to see that many buildings designed in the modern period have lost their criteria and approaches and cannot maintain their sustainability. In this context, it has been determined in the findings that when the modern period buildings change their function or are renewed, however they will preserve the modern period identity when considered together with the criteria and approaches of the modern period, parameters of sustainability. While constructing structures that can be transferred to future generations, it is necessary to respect the natural environment and the time. Using the right design principles and natural resources, as well as taking advantage of the technology of the period, ensures the sustainability of the buildings until today. In this context, it is an important factor to consider and implement sustainability together with its social, cultural, environmental, and economic parameters. This finding suggests that architects and designers can draw inspiration from modern period approaches to create buildings that are both aesthetically pleasing and environmentally responsible.

Our research also underscores the importance of preserving culturally significant homes from the modern period. These structures not only embody valuable architectural knowledge but also contribute to the social, economic, cultural, and environmental fabric of their communities. Buildings, which were designed in the modern period, are a historical cultural value that determines the architectural and cultural identity of the region with its architectural style, building form, and construction technique in the context of cultural sustainability. These buildings, meet criteria such as simple accessibility, walkability and vehicle accessibility, neighbourhood relations, functionality, and the social benefits they provide to the environment, so these houses-it also contributes to the social structure of their communities. These houses, which were built in the modern period and carry cultural value, maintain their economic sustainability because they are built with up-to-date construction materials. They create a tourist attraction center by increasing the land value and residential real estate values in their surroundings. These structures, which continue to be environmentally sustainable, continue to contribute to the economic structure of their

communities. Preserving these buildings ensures that future generations can benefit from the design principles and cultural heritage they represent.

This study provides a valuable foundation for understanding the relationship between modern architectural approaches and sustainability. However, further research is needed to reveal the original identities of modern period buildings without losing them, the development of strategies for preserving modern period houses in rapidly urbanizing areas, to make decisions to strengthen the relationship between modern approaches and sustainability in urban planning and design processes, also the adaptation of modern architectural approaches to contemporary building technologies to explore. By continuing to investigate these topics, we can gain a deeper appreciation for the enduring legacy of modern architecture and its potential to inform a more sustainable future.

Recommendations

The study looked at the sustainability parameters with the modern architectural approaches and criteria for houses built in the various nations of the world during the modern period, as well as their current state.

As for the conclusions of this study, the necessity to safeguard houses built during the modern architectural period has an inevitable outcome. The investigations have shown that Modernism's understanding helped to create and develop the foundation of the idea of sustainability, which evolved after the modern period's criteria and approaches were established. Because of these reasons, it has to be crucial to maintain the criteria of the modern period for providing a sustainable design.

As a result, the following is the list of the study's research findings and recommendations:

- ❖ It should be ensured that the modern period buildings are protected without spoiling its identity.
- ❖ If residential buildings constructed in the modern period are to be renewed nowadays no changes should be made in the approaches and criteria of the modern period.
- ❖ If possible, it should be renewed with modern building materials and traditional construction techniques.
- ❖ Recommend is all subjects, institutions, and organizations that supervise, implement, and manage the protection of modern structures should be developed and trained in the subjects of protection of modern structures.

Consequently, it is recommended that building designs that are compatible with social, economic, environmental, and cultural sustainability parameters be used, as merely adhering to modern architectural approaches and criteria will be not enough to preserve the modern period identity. Accordingly, It ought to be put into effect by incorporating modern period architectural criteria with the present day's modern sustainable designs.

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Pragmatic features of using predicative adjectives

Прагматичні особливості вживання предикативних прикметників

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Abstract

The article examines predicative adjectives as components of the speech acts of apology and gratitude, as well as the speech act of compliment. The examples show the importance of the speech acts of apology, gratitude, and compliment; the general characteristics and multi-intentionality of these acts are presented. Peculiarities of the language implementation of apology, gratitude, and compliment when using the structure Vcop+Adj are highlighted. Ways of implementing the contact-establishing strategy by using expressive speech acts of apology, gratitude, praise, and compliment are demonstrated. Since all considered speech acts aim to change the addressee's psychological state, their components are predicative adjectives belonging to the group of expressives. According to their position in the discourse, the speech acts of apology, gratitude, praise, and compliment are mostly initial acts. All considered speech acts suggest that predicative adjectives are modified by various intensifiers that occur in different syntactic structures. They can be expressed using a direct speech act, whose linguistic semantics corresponds to the illocutionary force of the speech act, and using an indirect speech act, realized with the help of speech forms whose illocutionary force does not align with their semantics.

Keywords: predicative adjectives, expressives, class of predicates, interactive communication, poly-intentionality of the speech act.

Анотація

У статті розглянуто предикативні прикметники як складові мовленнєвого акту вибачення, вдячності, як компоненти мовленнєвого акту компліменту. На прикладах показано вагомість мовленнєвого акту вибачення, вдячності, мовленнєвого акту компліменту; представлена загальна характеристика та поліінтенційність мовленнєвого акту вибачення, вдячності, мовленнєвого акту компліменту. Виокремлено особливості мовної реалізації вибачення, вдячності, компліменту під час уживання структури Vcop+Adj. Показано шляхи реалізації контактно-встановлювальної стратегії шляхом використання експресивних мовленнєвих актів вибачення, вдячності, похвали, компліменту. Оскільки усі розглянуті мовленнєві акти, спрямовані на зміну психологічного стану адресата і компонентами їх є предикативні прикметники, що належать до групи експресивів. Мовленнєві акти вибачення, вдячності, похвали, компліменту, за позицією в дискурсі, є переважно ініціальними актами. Всі розглянуті мовленнєві акти дають можливість говорити про те, що модифікуються предикативні прикметники різноманітними інтенсифікаторами, які трапляються у різних синтаксичних структурах; можуть виражатися засобами прямого мовленнєвого акту, чия мовна семантика відповідає ілюкутивній силі мовленнєвого акту та засобами непрямого мовленнєвого акту, що реалізуються за допомогою мовних форм, чия ілюкутивна сила не збігається з його семантикою.

Ключові слова: предикативні прикметники, експресиви, клас предикатів, інтерактивне спілкування, поліінтенційність мовленнєвого акту.

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Introduction

Language changes over time, never stands still, and reacts to everything that happens around it. To describe this world, language tries to put words together in such a way and finds a way to present words so that they are consistent and logical (Hladush & Pavliuk, 2019).

Language is a multi-level system, and its existence is determined by the constant change of elements. Speaking about the quantitative and qualitative changes in the language, we claim that its most sensitive level is the lexical-semantic level, where the units undergo semantic restructuring, archaization, neologization, and stylistic marking. Therefore, in recent years, there has been increased interest among lexicological studies in the mechanisms of improving the means of lexical nomination, in the development of the lexical composition of the language, in the lexical fund in general, and in the manifestation of trends in the development of individual lexemes and semantic structures (Boiko & Khomych, 2011).

The emergence of new approaches to the study of semantic properties is due to the development of modern linguistic science, nominative units through communicative implementation, and the disclosure of linguistic laws. Important in this matter is the study of the factors that allow the same words to acquire the ability to express different judgments of speakers about objects. An indicator of the uniqueness of a language is its property, which is manifested in the possibility of its lexical potential to actualize shades for specific cases of using words from its stock.

In the foreign language learning program, grammar holds a central place. Without this knowledge, effective communication is impossible, both in written and spoken forms (Kovtun, 2021).

Adjectives occupy a special position among other linguistic units. They have neither a specific reference nor their own subject area.

Describing the features of objects and phenomena, adjectives are important components of the semantic structure of a sentence. Emotionality and expressiveness are the main pragmatic properties of adjectives. An adjective, which can affect a person's interpersonal relationships during communication, is of great importance in terms of information. Adjectives are important for social affiliation, identity building, and for expressing an individual's attitude toward the surrounding world. The pragmatic features of using predicative adjectives are important for the emotional expressiveness of the message and for understanding its linguistic state.

Therefore, the relevance of this research is determined by the general tendency of linguistic studies to examine the adjective as a part of the language, its structure, and semantics.

Literature Review

Scientists N. Boiko & T. Khomych (2011) attempted parametricity in the connoted structures of semantic lexical units of the language, conducted a multi-faceted holistic analysis of the intensity of meaning components; the basis of the study of intensive and parametric components in the modern linguistic paradigm is singled out; features are shown, and their interaction with other components of the semantics of connoted lexical units is analyzed; the place of intensive and parametric components in the semantic structure of the connoted word is determined; in the semantic structure functional-semantic types of connotations are distinguished from the intensively parametric component, semantic varieties are distinguished in the intensively-parametric component.

In the texts of television advertising, O. Ostroushko (2009) defined pragmatic guidelines for the use of adjectives: characteristics of the consumer, characteristics of the product as a whole, and selection of the quality of the advertised product. To strengthen the expressiveness of the compliment at the syntactic level, along with predicative adjectives, the use of adverbs, intensifiers, and interrogative pronouns is shown. Developed tasks aimed at forming a certain image, the image of the advertised product.

Several theoretical problems of the syntax of the modern language, taking into account current linguistic theories and ways of solving them, were considered by L. Ostrovska (2022). The main directions of modern syntax are characterized in a key that is relevant for today, in particular, semantic, expressive, generative, pragmatic, cognitive, and communicative, which present an anthropocentric scientific paradigm and are

actively developing in world linguistics. Special attention is paid to the concept of functional-semantic syntax, in particular, the meaning is shown, which is important in the research of the syntactic structure of the language.

The opinion of such scientists as O. Bilous, R. Brunner, & O. Bilous (2022) is consistent with the need to "supplement constructively oriented syntax with a new perspective during the study of syntactic phenomena" and pointing out that the social purpose of language in speech activity is the correct use of sentences, and the essence of language cannot be reduced in any case to the construction of content-filled structures and syntactically correct structures. The central function of language is the communicative function, that is, the function of using language "as a means of understanding between people".

In addition to the main participants of speech communication, N. Lyhosherstova (2015) believes that a common fund of knowledge and ideas about the world, speech skills, and a certain subject of speech communication is necessary for the implementation of a speech act. The scientist proves that the main participants in speech communication are the addresser and the addressee, and the speech act is a unit of speech activity; determines the main features of a speech act: purposefulness (goal); intentionality (intentionality); conventionality (compliance with generally accepted rules of language use); proves that a purposeful speech act is a speech act, and he performs the act by the rules and principles of speech behavior accepted in society.

N. Andreichuk (2008) does not single out expressives as a separate class according to the meaning of the performative predicate verb but defines the type of speech act. To the class of commissives, the scientist refers to the expression of threats, to the class of behabitives: expressions of congratulations, apologies – reactions to the behavior of other people. I. Vykhoanets & K Horodenska (2004) submitted an alternative and showed the shortcomings of such a classification. The scientist singled out five illocutionary acts in an alternative proposal (representatives (assertives), commissives, directives, declaratives, expressives), taking into account the psychological state of the speaker and the illocutionary purpose.

E. Black made a classification of speech acts from different points of view: according to the status of the speaker and the listener, according to the type and methods of achieving illocutionary force. The scientist focuses on the study of individual speech acts, with the help of which it is possible to find the expression of speech acts and to study structures from the standpoint of their functioning – it is by such means that in the Vcop+Adj model, there can be predicative adjectives.

The whole structure expresses expressive speech acts when the predicative function has evaluation adjectives, which is shown by the analysis of the structural and semantic features of the Vcop+Adj structure. Most often, these are speech acts of expressing a compliment, gratitude, or apology.

The opinion of scientists in the context of different types of discourse regarding the content of expressives is interesting. Thus, E. Black (2006) proved that expressive acts perform a very strong interpersonal function and are such speech acts that reveal the position of the speaker in situations of expression of satisfaction, greeting, and expression of sympathy. They are much more likely to be encountered in fiction in character discourse than in narrative – in a literary work with a linear presentation of events and facts. With the help of predicative adjectives, the features of the components of the Vcop+Adj structure were considered, and O. Deychakivska (2020) proposed an expression of the speech act of a compliment. From the point of view of distinguishing between a sincere and a phatic compliment, the classification of J. Searle is presented within the framework of Brown's "theory of politeness", and the speech act is analyzed. The Vcop+Adj structure is presented by the speaker as a means of expressing a positive assessment, which includes approval, delight, and satisfaction. It has been proven that the incentive for a compliment is the property, appearance, inner world of the addressee, high or professional moral qualities of the interlocutor, positive character traits, and achievements, which include both an idea of the psychological characteristics of a person and knowledge of the informational thesaurus of the interlocutors, the specifics of communicative interaction, which from personal it depends entirely on the qualities of the communicators. O. Cherednichenko (2015) also supports the opinion of previous scientists that the structure Vcop+Adj is close to the central means of expression or even central to a particular speech act if we talk about expressives. In contrast to the peripheral – the central element is understood as the same element that most fully conveys the meaning, is the most frequent, is the best for a certain category, and is used in the case of explaining a certain category of other members.

So, having reviewed scientific sources, we claim that scientists have considered several theoretical problems of the syntax of the modern language, taking into account current linguistic theories and ways of solving them; the main features of the speech act are defined; it is proven that a speech act is a purposeful speech act, and it acts by the rules and principles of speech behavior accepted in society; a classification of speech acts is made from different points of view: according to the status of the speaker and the listener, according to the type and methods of achieving illocutionary force.

With the help of predicative adjectives, the peculiarities of the components of the Vcop+Adj structure were considered, and the expression of the speech act of the compliment was proposed. Scientists have focused on the study of individual speech acts, with the help of which it is possible to find the expression of speech acts and to study structures from the standpoint of their functioning – precisely by such means in the Vcop+Adj model, there can be predicative adjectives.

The pragmatic aspect of the use of predicative adjectives was not the subject of special study, although certain groups of predicative adjectives were added to one or another speech act – a list of means of expressing illocutionary force.

The purpose of the study is a comprehensive study of the pragmatic features of the use of predicative adjectives and their syntagmatic and pragmatic characteristics.

Methodology

This research is developed under a qualitative approach with a descriptive-analytical design, based on pragmatic and structural linguistics procedures. The object of study is predicative adjectives in their communicative function, specifically in expressive speech acts (apologies, gratitude, and compliments). The study adopts a functional perspective of language, analyzing the object from its form, structure, and pragmatic function.

Analytical Framework

The study is structured in three complementary analytical levels. At the genetic level, the genesis of the linguistic forms under study is traced; at the structural level, the relationships between components of the linguistic system are analyzed; and at the functional level, the communicative purpose of the studied structures is examined.

Corpus and Selection Criteria

The corpus was constituted from a continuous sample of English literary works, play scripts, conversation transcripts, journalistic texts, scientific literature from English-speaking countries, and lexicographic sources. Material selection was specifically focused on the presence of "Vcop+Adj" structures in contexts of apology acts, expressions of gratitude, and compliment formulation. Special attention was paid to cases presenting adjectival complementation through subordinate clauses, infinitives, and inflections.

Methods and analysis techniques

The research employs an integrated combination of theoretical and empirical methods. Theoretical methods include deduction and induction for theoretical processing of material, as well as synthesis and analysis for theoretical foundation and findings classification. Regarding empirical methods, linguistic description was used for classifying functional properties, systematizing semantic characteristics, and analyzing syntactic structures. The structural analysis comprised the transformational study of "Vcop+Adj" structures, distributional analysis of linguistic patterns, and identification of characteristic models.

The pragmatic-semantic analysis focused on identifying communicative tactics, analyzing politeness strategies, and evaluating communicative intentionality. Meanwhile, contextual analysis examined extralinguistic factors, evaluated situational contexts, and analyzed pragmatic presuppositions. Conversational analysis centered on studying dialogic interactions, analyzing participants' "communicative face," and evaluating status maintenance or change strategies.

Analysis procedure

The analytical procedure was developed in three main phases. The preparatory phase included exhaustive documentation of sources, systematic recording of excerpts, and initial categorization of structures. During the analytical phase, we proceeded with the identification of "Vcop+Adj" structures, their classification according to speech act type, analysis of discursive position, evaluation of intensifiers, and analysis of pragmatic characteristics. The interpretative phase contemplated the analysis of structural equivalences, identification of connotative senses, evaluation of communicative functions, and analysis of politeness strategies.

Interpretive validity and quality control

The interpretive validity of the study is supported by empirical data that evidence specific patterns in the use of the analyzed structures. For instance, the low frequency of indirect apologies was confirmed, while the predominance of direct apologies is explained by the clear expression of the desire to obtain forgiveness. The analyzed examples revealed the syncretic nature of the predicative adjective "sorry," and it was found that the type of discourse with predicative adjective serves as an explanation of the temporal and deictic design of the structure components.

Quality control was implemented through a comprehensive system that includes rigorous documentation of sources, certification of excerpts, and verification of transcriptions. Analytical verification comprised systematic review of classifications, checking interpretative coherence, and validation of pragmatic analysis. The entire analytical process was documented in detail to ensure consistency in the application of criteria.

Study limitations

The study presents limitations inherent to its nature, focusing specifically on expressive speech acts that require psychological and situational presupposition, as well as the existence of shared knowledge between interlocutors. The findings will serve as a basis for future studies on predicative adjective complementation, analysis from the cognitive paradigm, and comparisons between verbal and adjectival complementation.

Results and Discussion

The desire to earn forgiveness is the essence of the speech act of apology (in addition to the recognition of a negative attitude on the part of the speaker towards the committed action), which is often accompanied by an attempt to justify one's behavior in the relationship with the interlocutor to restore the lost balance with him. The speaker tries to reach an understanding with those whom he offended. A compensatory, typical retrospective act is a speech act of apology, which refers to the violation of past social agreements (Deichakivska, 2024).

It is the speech act that is aimed at correcting the situation. Its purpose is to restore social harmony due to the harm done to someone or the probable, real offense of a person.

The theory of politeness by P. Brown & S. Levinson (1978) is important, which at its core contains the concept of negative and positive "face", as well as the concept of negative politeness and positive politeness. Negative politeness strategies include apologetic statements. By taking the blame for a negative act, the speaker expresses his desire to free himself from guilt and expresses his respect for the addressee. The addressee puts himself in a vulnerable position, showing responsibility for the negative action taken, thereby threatening his "face".

Positive politeness consists of expressing approval and showing interest in the personality of the partner and his actions, negative politeness, on the other hand, aims to soften and avoid such speech acts that could threaten a person's status (critical remarks, orders, direct requests to the interlocutor) (Kozak et al., 2023). J. Searle (1976) does not fully share the opinion that the speech act of apology "strengthens the face" of the addressee and "destroys the face" of the speaker. The scientist claims that apologizing for a minor offense contributes to the positive image of the addressee, not just the addressee because the speaker declares himself as a polite person by apologizing for a minor offense.

The speaker can reduce his authority by admitting guilt if there is a good reason to apologize, thereby raising the authority of the partner with whom he communicates and, at this moment, allowing him to decide the fate of their future relationship.

A standard example of expressive speech acts is an apology. Their illocutionary purpose is to express, in terms of sincerity, the named state of the speaker, which is closely related to the state of things indicated in the sentence (Celik & Kapukaya, 2022).

Feelings of remorse and regret are characteristic of the speech act of apology. The speaker takes responsibility for the occurrence of an unfavorable state of affairs, which is the social function of an apology. Therefore, an apology is always accompanied by a state of remorse (Norrick, 1978).

An apology is a multi-intentional type of speech activity. Depending on the implementation of strategies of additional intentions, stereotypical apology strategies can be grouped into several varieties. Therefore, an apology includes recognition of responsibility, an explanation, a promise not to commit malefactive actions in the future, a request, offer to compensate for the damage caused – along with the concept of forgiveness. With this approach, one speaks of an apology expressed by predicative adjectives. Most often, we come across cases when the speaker, apologizing, admits the fact of committing an action:

- 1) Recognition of responsibility – insult to the listener:

«– *I'm sorry. I was **so beastly** to you just now*» (Maugham, 1985, p. 155);

- 2) Introducing an imbalance in the relationship – accompanied by an explanation of what exactly led to the act:

«– *It was getting so late. I was afraid you were not coming.*

– *I'm sorry, some tiresome people came around after the play, and I couldn't get rid of them*

(Maugham, 1985, p. 87);

- 3) Malefactive character – the speaker emphasizes the impossibility of avoiding the situation, forced to take such an action that will cause an imbalance in the relationship between the communicators:

«– *I am **sorry** to disappoint you, my friends, but it is clear to me from this manuscript, which I had not examined in many years, that a group of pilgrims traveled back to Wallachia from Sveti Georgi about 1478*» (Kostova, 2005, p. 729).

An apology on the part of the speaker is not superfluous, therefore, the information received is unexpected for the listeners, which to some extent concerns their professional competence. However, determining how useful the facts about which the individuals learned can be, the subsequent story of the addressee about those facts only proves that the malefactive action was forced, and the very nature of this action is a softened apology.

When the speech act of apologizing occurs with the use of a synonymous phrase with the predicative adjective **afraid**, we observe similar apologetic strategies.

This construction is most often used in the case when the listener, when addressed by the speaker, does not guess what they will be apologizing for, and then the apology is followed by an explanation.

«– *I'm afraid I can't pay you the two hundred pounds I owe you right away*» (Maugham, 1985, p. 112).

The addressee informs the listener that at the time of the conversation, he is unable to pay the amount he owes.

«– *I'm afraid, I shall have to go in a minute, she said. I'm late already*» (Maugham, 1985, p. 176).

The speaker simultaneously informs and apologizes that since he is already late, he is going to leave the listener.

However, the predicative adjective **afraid** can indicate a performed malefactive action.

«— *This is an unusual party for me. I haven't even seen the host. I live over there – ... and this man Gatsby sent over his chauffeur with an invitation.*

For a moment, he looked at me as if he failed to understand.

- *I'm Gatsby*, he said suddenly.
- *What!* I exclaimed. «*Oh, I beg your pardon*».
- *I thought you knew, old sport. I'm afraid I'm not a very good host*» (Fitzgerald, 2021, p. 58).

The interlocutor, who will be interrogated, explains (since he can't find the host) how strange the party is. The host did not realize for some time that he was not recognized because he had previously spoken with the guest and apologized for the inconvenience caused and for his inattention.

Peculiarities of the linguistic implementation of an apology when using the Vcop+Adj structure.

The most frequent (taking into account the poly-intentional character) means of expressing the direct speech act of apology in the English language are simple elliptical sentences and complete uncommon sentences containing the adjective "sorry". The adjective "sorry" itself is used in conversation with strangers or the case of a very minor offense. We will give examples that illustrate such situations:

«— *Sorry to steal in like this. Your gate out there's locked.*

She shook her head. *Just pull on it. The padlock. I'm sorry*» (Fowles, 2006, p. 36).

We see a situation where a guest apologizes briefly for "sneaking in" (since the gate was locked) into the yard. The listener explains that it was enough to pull the lock because the gate was not locked with a key.

But, in turn, also apologizes for the awkward situation the interlocutor got into. As a result, the balance of social relations is achieved.

- In the first statement – precisely because the conversation takes place between people who are seeing each other for the first time, that is, they are strangers, and the negative act is insignificant, both participants of the communicative situation limit themselves to the words "sorry" with part of the predicate and the omitted subject in the addressee's statement;
- In the second statement in such a mini-dialogue – we see the restriction to a simple, complete, uncommon sentence with the adjective "sorry" in the listener's answer.

A simple uncommon sentence "**I'm sorry**" – a short form of apology – sounds when, at the insistence of one of the interlocutors, acknowledges his acquaintance with a certain person, the addressee, during a conversation between people who are little acquainted, answers with a refusal. At the same time, the addressee, realizing that the lack of an apology can lead to an imbalance, asks the speaker to forgive him, realizing that the apology will be the path to reconciliation, and his refusal is a malefactive action.

«— *Mr. Pine, do you know Richard Roper?*

– *I'm afraid not.*

– *But you must. He is famous. He is beautiful. ...Mr. Richard Onslow Roper? One of your famous international entrepreneurs. Come.*

– *Not a name to me. I'm sorry*» (Le Carre, 1993, p. 12).

In this example, let's pay attention to a double apology because the form of apology proves a sincere desire to earn forgiveness since the conversation is between people who have just met. All this speaks in favor of the factor of sincerity, which is at the center of statements that construct a certain situation.

In sentences, we often see intensifiers: **so, terribly, very, awfully**, when the speaker sincerely admits his guilt, which strengthens the effect of the speech act. This enables the speaker to realize his guilt and harmonize the relationship. It is characteristic of the English language that the closer the relationship between the interlocutors, the more necessary the use of the intensifier is.

The largest group of direct speech acts of apology in the English language are elliptical sentences and full sentences containing the adjective sorry (Cherednichenko, 2015, p. 275).

"I'm sorry" is a subject phrase with different pronouns and different subjunctive predicate tenses.

We usually come across the first-person singular pronoun when the adjective "sorry" is followed by a subordinate clause in the function of the subject.

We come across different time forms of the predicate and the subject in the third person singular, not in character discourse, namely in the case of using an apology in a narrative. In the case of character discourse, the subject is expressed in the first person singular with the help of a deictic element, and the predicate is expressed in the present tense.

Predicative adjectives as components of the speech act of gratitude.

When it comes to the speech act of gratitude associated with certain customary expressions, which is characteristic of many languages, it should be noted that linguists interpret gratitude as a speech act and consider it as a unit of speech etiquette. Such expressions in the English language are the phrases "Thank you" with various variations: "Thanks", "Thanks a lot", "My thanks", "Many thanks", etc.

The verb "thank" has all the characteristics of performative verbs, namely: the inadmissibility of the criterion of insincerity or sincerity, the equivalence of the action because the performative statement is true given its utterance), the simultaneity of the fact of reality and the fact of speech, naming oneself, the presence of powers in the speaker, the time of the performative verb coincides with the moment of speech, is a certain grammatical and lexical expression (the first actant must be expressed – the deictic element of the first person singular, and the verb must be in the first person singular of the present tense), the impossibility of using modal words or verbs that do not allow actions execution of the negative form of the statement, which makes it an ideal form in the phrase "I thank you" – a performative explicit statement, which makes it possible to consider the speech act of gratitude as a performative.

However, the performative paradigm of expressing gratitude formed by the expression "I thank you" is 1% of the actual material, and its elliptical variants are much more:

- «Thanks» – 49,2 %;
- «Thank you» – 36,5 % (Kivenko, 2015).

This shows that various means of expressing gratitude function in the English language, among which the construction Vcop+Adj stands out in addition to phrases that contain the verb "thank". The adjectives **obliged, kind, and grateful** are predicative adjectives that are used most often to express gratitude.

Within the content of the sentence, caused by the factor of sincerity regarding the state of affairs, expressives (the illocutionary purpose of which is to express the mental state of the speaker) convey the emotional state of the speaker. Therefore, gratitude belongs to the class of expressives. Expressions of gratitude are used precisely when the speaker wants the addressee to know that he is grateful to him for something – for something done or said. Expressing gratitude allows you to establish a sense of solidarity between interlocutors.

To satisfy the social norms of speech behavior to phatic acts, to evaluations devoid of any emotions, the definition of a speech act of gratitude belongs.

In the case of expressing gratitude, the sincerity factor attests to a positive assessment of the help provided, the expression of positive emotions, a valuable service in a difficult situation, or moral support.

The speech act of gratitude is multi-intentional.

Let's distinguish illocutionary goals, which implies the classification of gratitude as an expressive:

- Expressing a friendly attitude towards the partner;
- The influence of a positive reaction on the actions of a person or the behavior of an individual;
- Creation of positive monitoring of the addressee's actions;
- Ensuring the social balance of the individual;
- Support for harmonious and conflict-free communication.

We distinguish between positive and negative politeness strategies, which depend on the realization of additional intentions: we are talking about the expression of positive feelings in the case of the positive politeness strategy, which demonstrates interest, certifies the common views of the communicators in the desire and interests of the listener to avoid misunderstanding.

Peculiarities of the linguistic embodiment of gratitude when using the Vcop+Adj structure. The sincerity factor.

Analyzing the speech act of gratitude from the point of view of sincerity, we note that gratitude is a reaction of benefit or good in the form of an assessment of the benefit that the speaker received as a result of what the listener did or said. That is why linguists single out phatic gratitude together with insincere or sincere gratitude, which is part of polite behavior social ritual and performs the function of harmonized communication between interlocutors.

Sincere gratitude is the emotion expressed by the addressee for the service received. Instead, insincere gratitude is associated with the service provided – with a hostile instruction of the addressee, with sarcasm and irony.

Etiquette or actual gratitude is observed when it is manifested automatically in stereotypical situations to a certain extent and includes a compliment, praise, gratitude for some minor service, recognition or approval of attention:

1) Gratitude for a compliment:

«What a stunning room this is.

*I'm so **glad** you like it» (Maugham, 1985, p. 13).*

2) Gratitude for a small favor:

«When they came to the coffee he asked her whether he might offer her a liqueur.

*That's very **kind** of you. Perhaps it'll make me sleep better» (Maugham, 1985, pp. 79-80).*

The examples illustrate phatic gratitude, which attests to the knowledge of generally accepted rules and is expressed in the course of everyday conversation.

We can observe sincere gratitude when there is an assessment of the usefulness of the degree of the performed action. Communication participants attach special importance to the expression of a positive personal attitude to mutual actions, especially when a lot of time, material resources, and effort were spent on a certain act, as a result of which they rate these actions particularly highly. In this case, the condition of sincerity is a means of expressing an emotional state and is not just an etiquette formula. Sincere gratitude is evidenced by all the examples; various intensifiers expressed by the speaker are used in the utterances and show how necessary the action is, how useful it is, and that it was performed by the listener.

Yes, sincere gratitude is rarely limited to the phrase "Thank you", especially in interpersonal relationships. This phrase is followed by an emotional and evaluative phrase:

*«I have **to thank you from the bottom of my heart** for returning my grandfather's ring to me. It means an awful lot to me» (Tartt, 2013, p.154).*

Another proof of sincere gratitude is attached after the expression of gratitude expressed by the verb "thank". In this example, it is expressed by the phrase "from the bottom of my heart", and we also see a sentence that emphasizes how important the beneficent action was, that it was the addressee who did it.

Proving expressiveness does not require the use of a predicative adjective.

We conclude that the speech act of gratitude is expressed by several predicative adjectives strengthened by intensifiers, represented by messages and appeals, for which gratitude is expressed. In various types of sentences, the speech act of imperative and narrative adjectives is used, it conveys insincere and sincere, phatic gratitude. There are direct and indirect expressions of gratitude according to the way of expression. The speaker's gratitude to the listener certifies the speech act contributes to the cooperative course of interaction and emphasizes the recognition of the beneficence of his intentions or actions.

In response to the promise of actions, certain actions, approval, compliment, permission, and gratitude, are implemented as a reactive speech act.

Gratitude is a reactive speech act according to the position in the discourse since it is a reaction to certain actions of the addressee, that is, it is always compared to the previous part of the discourse.

Predicative adjectives as components of the speech act of a compliment. Compliment as a speech act. General characteristics. The poly-intentionality of the compliment.

There are many definitions of a compliment and different views on this speech act.

A compliment is an expression of positive appreciation that occurs in the utterance of someone higher in status and is generally expressed in everyday conversations among communicators of equal status. An atmosphere of trust is formed precisely through the exchange of compliments when one person can be sure of another person.

The scheme of interpretation of social positions, intentions, and actions is provided by the exchange conventions of communication participants – the behavior of partners becomes predictable and predictable. This allows the participants to avoid failures to mutually determine the perspectives of actions, that is, it is a cognitive function performed by compliments.

Compliments are used to level the course of conversation between communicators and to start a conversation. The addressee's inner world, positive character traits, appearance, high moral and professional qualities of the interlocutor or people close to him, property, and achievements are most often an incentive for a compliment.

Expressives include all speech acts of positive evaluation.

Compliments are considered as politeness and a positive politeness strategy. A compliment made in the interests of the interlocutor contributes to the development of the relations between the communicators and involves the inclusion of the interlocutor in the subject's value system.

Expressing positive appreciation is the intention of a compliment. Values have certain emotions that accompany the evaluation (enjoyment). It affects the addressee's values and emotional state and creates the desired positive atmosphere.

The desire to verbalize positive emotions and positive thoughts towards the listener turns the compliment itself into a rather strong means of manipulation – the desire to make the listener dependent on complimentary actions, the intention to obtain certain concessions from the listener, the desire to incline the listener to continue certain actions.

The use of a compliment for the realization of such intentions includes – an idea of the psychological characteristics of a person, knowledge of the informational thesaurus of interlocutors, and the specifics of communicative interaction, which depends on the personal qualities of the communicators. These positions indicate the complex nature of the content of the compliment (intentional).

Pragmatic ambiguity is characteristic of a compliment.

The intentions expressed by the explicit expression of a compliment include:

- 1) Showed admiration:
«*Why are you looking **so lovely** tonight?*» (Maugham, 1985, p. 165).
- 2) Showed recognition and respect:
«*I'm delighted you're both **so intelligent** about him*» (Fowles, 2006, p. 91).
- 3) Recognition of achievements, professional qualities:
«*He's always **so much more aware** of what he's doing than you think*» (Fowles, 2006, p. 89).

Peculiarities of linguistic means of expressing a compliment when using the structure Vcop+ Adj.

Linguists distinguish between a sincere and a phatic compliment, as in the case of the speech act of "gratitude".

If a compliment approaches a ritualized speech expression used in stereotypical situations, then it is considered a phatic compliment.

We speak of an etiquette compliment when the compliment is expressed using an adjective. All qualitative adjectives have a degree of evaluation (except adjectives indicating size, temperature, color, weight, and relative adjectives are an exception), so we can talk about gradation: how emotional and expressive are the compliments expressed by adjectives.

The emotions felt by the speaker are amplified with the help of various intensifiers, complimenting the listener.

«You look **nice** today. < ... > I mean **extra nice**» (Ng, 2017, pp. 50-51).

With this expression, one person wants to emphasize to the other that she looks very beautiful at the moment of communication and she likes to be complimented.

The status of the speaker and the listener is of great importance when giving a compliment. The listener's reaction is polite and positive, with an implicit desire to reduce possible exaggeration if the status of the interlocutors is the same.

It can also be an indirect compliment in the case of compliments – when it is combined with a complement, it is part of another compliment, and that is when the pragmatic and semantic content of the statement do not coincide.

An explicit compliment can be expressed as a reproach when it comes to an implicit compliment.

An implicit compliment is the negative semantics of predicative adjectives, which explicitly expresses reproach, a hidden expression of admiration.

Compliments, which generally occur in everyday conversations among communicators, express a positive assessment. An atmosphere of trust is created by exchanging compliments when partners can be confident in their relationship.

Conventions of exchange give communication participants a scheme of actions and intentions for the interpretation of social positions. Then, the behavior of the partners becomes predictable, which allows the participants to avoid failures and mutually determine the prospects of further actions, and then we can talk about the cognitive function of compliments.

A compliment made in the interests of the interlocutor contributes to the development of mutual relations between communicators and involves its inclusion in the subject's system of values.

Implementation of a contact-establishing strategy by using expressive speech acts of praise, compliment, and apology.

The contact-establishment strategy includes the tactics of showing interest in the interlocutor (except for the tactics of positive assessment) expressed with the help of cliché questions: How is it going? How are you?, parting questions, phrases like "you know", "you see", exclamations, and "mirror immediate assessment" by the addressee of the addressee's statement.

With the help of speech acts of **praise** and **compliment**, the tactics of this strategy are implemented, which include predicative adjectives. A compliment is most often a component of positive evaluation tactics, and when communicating with people you don't know very well, the speech act of a compliment has a formal character.

For example, a young clerk will "pour" compliments to the hosts who invited him to visit to assure the hosts of the sincerity of his words and win their favor.

That is why the compliment refers to the accommodation to which he is invited.

«What **a stunning** room this is»

«...»

«I'm so **glad** you like it» (Maugham, 1985, p. 13).

The guest's words favorably received by the hostess testify to an example of a "mirror compliment".

This is followed by a compliment to the hostess, namely: a compliment to the play that took place on stage this season and the hostess's performance in this play.

You're **simply wonderful** in it (Maugham, 1985, p. 16).

And the reaction to an invitation to attend rehearsals is a compliment-thanks.

«I never allow outsiders to come to rehearsals, but as you're out accountant you almost belong to theatre, and I wouldn't mind making an exception in your favor if it would amuse you to come».

«That would **be terribly kind** of you» (Maugham, 1985, p. 17).

At the end, there is a compliment for receiving the photo.

«...Julia took a bundle of her latest photographs. She handed one to the young man. This s one is not so bad»

«It's **lovely**» (Maugham, 1985, p. 18).

A contact-establishing strategy may not necessarily take place between strangers. When it is necessary to immediately react to the speaker's remark, a compliment implements this strategy in speech episodes that contribute to the establishment of mutually acceptable relations and testify to understanding sympathy in further relations and at the time of the conversation. In such cases, we observe a "mirror compliment".

«I'm so **happy** here with you».

«I'm so **happy** too», she said quietly (McEwan, 2007, p. 28).

The young couple exchange compliments, which should prove an undeniable, deep friendship and sympathy because they intend to spend the first days of their life together on the coast.

Even during the conversation of old acquaintances, compliments are heard to harmonize the relationship. For example, people who, for a long time, after a long separation, were united by friendly and warm relations, which were interrupted due to unforeseen circumstances, try to renew them. An old acquaintance proves to the woman that even though the children love their father more and more, she is a good mother.

In confirmation of her consent, the woman claims without objection that her husband, the father of their children, deserves to be loved.

«He's very **lovable**» (Maugham, 1976, p. 165).

When praise is an element of a contact-establishing strategy, it cannot be expressed to a third person. That is why we consider it a compliment to say good words to the father, even when he is not present during the conversation. This is how the addressee of praise conveys his positive mood, who hopes that the addressee shares his feelings, has an emotional impact on the interlocutor, hopes that his words will be properly appreciated and that the whole situation will contribute to maintaining a warm atmosphere in general.

«On the contrary I think you're **an excellent** mother. You see that they're well and happy».

«...»

«But you're not wrapped up in them as Grey is».

«It's **unnecessary** that one should be. I'm a human being and I treat them as human beings. A mother only does her children harm if she makes them the only concern of her life».

«...»

«And the fact remains that they worship me».

«I've noticed that. You're their ideal of all that's **graceful and beautiful and wonderful**» (Maugham, 1976, p. 165).

We note the statement about the beautiful mother as our interlocutor. The adjective "**excellent**" is used in the attributive function, which is similar to the above examples, but the whole phrase is in the predicative function. Further on in the text, we observe adjectives that, given the addressee's status and the element of exaggeration, are definitely regarded as praise.

In the given example, we come across the adjective **unnecessary** – an adjective of deontic modality, which sounds like a response to praise. To reduce the qualifying value of praise, an adjective with a negative prefix is used. An overindulgence in praise can approach self-praise.

Speech acts of apology and thanks can perform a contact-establishing function.

«I'm sorry, but would the locative case do?

«...»

*«Oh hell, don't bother», said Bunny stridently. «if you don't have to decline it and it doesn't need a preposition it **sounds good** to me ...*

«I'd like to shake your hand, stranger. ... «Glad to meet you, yes, yes» (Tartt, 1992, p. 21).

A student who studied Greek at a different college than where he is currently studying tries to get to know students who study in the department of classical languages. He begins his attempt to solve the task they are discussing to help them with an apology, followed by a positive evaluation from one of the students.

The example demonstrates the combinability of speech acts, positive assessment – praise and compliment with other speech acts, in particular speech acts of thanks and apology.

In our review of the research, we found out that several theoretical problems of the syntax of the modern language were considered by scientists, taking into account modern linguistic theories and ways to solve them; the main features of the speech act are defined; it is proven that the speech act is a purposeful speech act that acts according to the rules and principles of speech behavior accepted in society; speech acts were classified from different points of view: according to the status of the speaker and the listener, according to the type and methods of achieving illocutionary force; with the help of predicative adjectives, the peculiarities of the components of the Vcop+Adj structure are considered, the expression of the speech act of a compliment is proposed. Scientists have focused on the study of individual speech acts, with the help of which it is possible to find expressions of speech acts and to investigate structures from the point of view of their functioning – it is with the help of such means that in the Vcop+Adj model, it is possible to be predicative adjectives.

The pragmatic aspect of the use of predicative adjectives was not the subject of special research, although certain groups of predicative adjectives were added to one or another speech act – the list of means of expressing illocutionary force. Therefore, predicative adjectives are considered by us as components of the speech act of apology, thanks, and components of the speech act of compliment.

Using examples, we show the importance of the speech act of apology, thanks, and the speech act of compliment; the general characteristics and multi-intentionality of the speech act of apology, thanks, and speech act of compliment are presented. Peculiarities of language implementation of apology, thanks, and compliment when using the structure Vcop+Adj are singled out.

Ways of implementing the strategy of establishing contact using expressive speech acts of apology, thanks, praise, and compliment are shown.

Conclusions

Predicative adjectives are considered as components of the speech act of apology, gratitude, components of the speech act of compliment. The examples show the importance of the speech act of apology, gratitude, and speech act of compliment; the general characteristics and multi-intentionality of the speech act of apology, gratitude, speech act of compliment are presented. Peculiarities of language implementation of apology, gratitude, and compliment when using the structure Vcop+Adj are singled out.

Ways of implementing the contact-establishing strategy by using expressive speech acts of apology, gratitude, praise, and compliment are shown.

Since all considered speech acts are aimed at changing the psychological state of the addressee, and their components are predicative adjectives belonging to the group of expressives. Speech acts of apology, gratitude, praise, and compliment, according to their position in the discourse, are mostly initial acts. All considered speech acts make it possible to say that predicative adjectives are modified by various intensifiers that occur in different syntactic structures; they can be expressed using a direct speech act, whose linguistic semantics corresponds to the illocutionary force of the speech act, and using an indirect speech act, to be realized with the help of speech forms, the illocutionary force of which does not coincide with its semantics.

Speech acts of gratitude, apology, praise, and compliment occur in various (rebuke, promise) communicative situations and are not limited to highly specialized (judgment, reading a sermon) spheres, they can be classified as universal or primary speech acts, not institutional or secondary.

The fact that predicative adjectives belong to the most frequent linguistic means of expressing acts of thanks, apology, and compliment in the Vcop+Adj structure, together with nouns and verbs, indicates the importance of their use in interactive communication. Any adjective with evaluative connotations can potentially be used in this function.

As part of expressive speech acts, predicative adjectives act as tactics of manipulative strategy and protection and as tactics of communicative strategies of positive and negative politeness. In addition to the defense strategy, in all strategies, the most frequently used speech act is a compliment.

Since predicative adjectives in the composition of expressives are elements of communicative strategies, this makes it possible to characterize them as cognitive categories of the communication plan, where attention is focused on the speaker.

In the study, we considered the features of predicative adjectives as components of expressive speech acts, as well as communicative strategies; the importance of the functioning of predicative adjectives as expressive with the simultaneous inclusion of all predicative adjectives in the expressive class is characterized; a boundary is drawn between one or another character of the speech act. Therefore, a comprehensive study of the pragmatic features of the use of predicative adjectives and their syntagmatic and pragmatic characteristics was carried out.

Further research is needed to study the structural and semantic properties of predicative adjectives, in particular: predicative adjectives in the role of a mandatory syntactically dependent extension with that-clause; predicative adjectives in the function of a mandatory syntactically dependent component with a prepositional suffix; predicative adjectives with an infinitive in the function of mandatory syntactic expansion.

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The interactive educational environment as a determinant of personality development: a case study in higher education

Інтерактивне освітнє середовище як детермінанта розвитку особистості: кейс у вищій освіті

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Abstract

The content of the key concepts of the study is disclosed; specific signs and an integral quality criterion of the formation of an interactive favorable educational environment are shown as determinants of personality development with a personally oriented approach to student learning; the components of the interactive educational environment are highlighted. To use significant formats of interactive work in the educational environment for personal development, the practical direction of digitization and modernization of the educational environment was revealed. Examples of the use of effective formats of interactive work in an interactive educational environment as determinants of personality development are given. The use of immersive technologies in an interactive educational environment is presented as a determinant of personality development. Through an empirical

Анотація

Розкрито зміст ключових понять дослідження; показані специфічні ознаки та інтегральний критерій якості сформованості інтерактивного сприятливого освітнього середовища як детермінанти розвитку особистості при особистісно орієнтованому підході до навчання студентів; виокремлено компоненти інтерактивного освітнього середовища. З метою використання вагомих форматів інтерактивної роботи в освітньому середовищі, з метою розвитку особистості розкрито практичну спрямованість цифровізації та модернізації освітнього середовища. Наведено приклади використання дієвих форматів інтерактивної роботи в інтерактивному освітньому середовищі як детермінанти розвитку особистості. Як детермінанту розвитку особистості представлено використання іммерсійних технологій в інтерактивному освітньому

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study with students, we, at the ascertaining stage, by using a system of methods for measuring the state of readiness of future specialists to implement an interactive, safe educational environment as a determinant of personality development, obtained the results of an experimental study that indicate the need to improve the process of forming the readiness of specialists to implement the outlined problem through implementation of pedagogical conditions developed by us. Therefore, at the formative stage, the author's pedagogical conditions developed for students of graduation courses are implemented. Using K. Pearson's non-parametric criterion of agreement (χ^2), the reliability of the obtained research data was proven. The results of the formative experiment proved the importance and originality of the research, the practical and scientific efficiency, and the effectiveness of the proposed pedagogical conditions.

Keywords: interactive educational environment, personality development, safe, educational environment, interactive work, digitization and modernization of the educational environment.

Introduction

At the current stage of education development, an effective educational environment should be considered as an atmosphere that is interactive, conducive to personality development, and based on the value guidelines of a full-fledged modern higher education (Dubatovk & Palamarchuk, 2021).

One of the important components of the formula of the new educational space of the higher school is the creation of a modern interactive educational environment as a determinant of personality development, which will provide innovative technologies and tools for learning, the necessary conditions for educators not only in the premises of an educational institution (Yastrub, 2018).

It is in such an environment that a person will be tolerant, able to work together, learn to communicate, analyze, and solve educational tasks; and be attentive to comrades in joint interaction. In this context, we are talking about a favorable interactive educational environment as a determinant of personality development, and therefore, it is important to substantiate its essence and necessity for today.

New demands of society in the training of a modern specialist require the creation of an interactive educational environment as a determinant of personality development and restructuring of the entire work of a modern higher school. The most important requirements that ensure the professional and social mobility and competitiveness of the future specialist, the convertibility of education, and the requirements that require training with the help of innovative technologies are the following: internationalization and globalization, unification and standardization, accessibility, and openness, high quality of educational services and the creation of interactive educational environment as determinants of personality development (Dotsenko, 2019).

Modernity requires the education system to prioritize the issues of humanization of education, development of personal abilities, preservation of human values, creation of an educational and subject environment, and provision of a personal approach, which will promote the manifestation of human creativity and ensure the psychological comfort of the individual in unity because it is the formation of mental functions and the

середовищі. Через емпіричне дослідження зі студентами ми, на констатувальному етапі, шляхом використання системи методів вимірювання стану готовності майбутніх фахівців до реалізації інтерактивного безпечного освітнього середовища як детермінанти розвитку особистості, отримали результати експериментального дослідження, які говорять про необхідність удосконалення процесу формування готовності фахівців до реалізації окресленої проблеми шляхом впровадження розроблених нами педагогічних умов. Тому, на формувальному етапі впроваджено розроблені для студентів випускних курсів авторські педагогічні умови. За допомогою непараметричного критерію згоди К. Пірсона (χ^2) доведено вірогідність отриманих даних дослідження. Результати формувального експерименту довели важливість і оригінальність дослідження, практичну й наукову ефективність та дієвість запропонованих педагогічних умов.

Ключові слова: інтерактивне освітнє середовище, розвиток особистості, безпечне освітнє середовище, інтерактивна робота, цифровізація та модернізація освітнього середовища.

development of a person, his psychological qualities are conditioned by the environment in which the individual is (Omelchenko, 2018).

The renewal of the modern world space is characterized by the expansion of opportunities for the use of special abilities by each individual in various spheres of intellectual work. Therefore, a person who graduates from an educational institution must have creative potential, which will allow him to be able to make optimal and prompt independent decisions, to be professionally mobile, ready to develop the skills of orientation in the information space, and to constantly acquire new knowledge. Therefore, today, the problem of conceptual reorientation of vocational education on the development of personality, its creative potential, and the development of a person who is preparing for professionally qualified competitive activity is important. Today, for the formation of the creative personality of a specialist, there are acute issues of selecting the optimal content of student training and increasing the level of scientific knowledge; activation of training methods and training methods, improvement of conditions of professional training and implementation of the model of professional training and personally oriented training (Kuchai et al., 2022). Based on the relevance of the research topic, we set a goal to perform the following tasks, which justified the structure of the article: to reveal the content of the key concepts of the research; to show specific signs and an integral quality criterion of the formation of an interactive favorable educational environment as determinants of personality development with a personally oriented approach to student learning; distinguish the components of the interactive educational environment; to reveal the practical direction of digitization and modernization of the educational environment and immersive technologies in an interactive educational environment; to carry out a research-experimental verification of the effectiveness of the proposed pedagogical conditions for the formation of the readiness of future specialists to implement an interactive safe educational environment as determinants of personality development and proved their practical and scientific efficiency and effectiveness.

Literature Review

Scientists have conducted several studies in which the issue of combining or using innovative and real space in the educational process of a higher school is raised to create an interactive educational environment for personality development.

N. Dotsenko (2019) studies the ways of using audiovisual means in an interactive educational environment as determinants of personality development in training future engineers; considers the means that the information and educational environment can offer to improve the quality of assimilation of practical and theoretical provisions of general technical disciplines; in the conditions of the information and educational environment proves the importance of modern electronic interactive manuals, which navigate the course for completing tasks using personal computers or gadgets in the conditions of the information and education environment where interactive electronic educational tools are presented; considers the provision of information using QR codes in the conditions of an information and educational environment and offers tasks performed based on multimedia materials for practical work, online calculators, design and modeling tools. However, the researcher did not show the problem of his research within the framework of the global management system of the university, the possibilities of strengthening the student-centeredness and interactivity of the educational process were not singled out. Such a study was conducted by T. Konovalenko. In particular, questions regarding the possibilities of creating a student-centered interactive educational environment are revealed by T. Konovalenko (2021). Examples of experience regarding the influence on the transformation of the structure and content of the educational process of project activity are given; possibilities of increasing interactivity within the framework of the global university management system, possibilities of increasing student-centeredness and interactivity of the educational process are considered; a list of interactive types of student interaction in classes is presented, and individual examples of application in the conditions of distance learning and offline learning are described in detail. We believe that it was necessary for such a study to consider the views of foreign scientists on the essence of an effective educational environment and to reveal, within the framework of the global university management system, the conditions for the development of the individuality of a person. The study is devoted to such approaches to education. V. Dubatovk & O. Palamarchuk (2021), taking into account that the influence of the school on personality development is quite significant; the views of foreign scientists on the essence of an effective educational environment were considered, and it was proved that the school affects the development of strong-willed qualities, such as purposefulness, ambition, activity, which develop against the background of the proper functioning of the school educational environment. The all-round development of a person is presented as an innovative individual – the highest value of

society. The educational space, the modern trends of which are related to the creation of conditions for the development of individuality, which is the space in which the development of the personality is carried out, is presented as an institute of socialization of the personality, which is embodied in the following directions: social-pedagogical and social-psychological. In the modern educational process, it is important and necessary to introduce effective methods of immersive learning into the educational process in the context of training future innovative specialists. Therefore, the purpose of A. Hryhorenko's (2024) research is to identify, compare, and analyze effective methods of immersive learning in the context of training future teachers. The study presents the experience of introducing immersive technologies into the process of training future teachers; an analysis of practical experience in pedagogical education with the introduction of immersive technologies was carried out; the positive impact on the training process of future teachers of immersive technologies that develop key skills in an immersive and interactive environment and the impact of the use of interactive simulations, virtual reality and other innovative approaches that contribute to increasing practical skills, improves students' understanding of theoretical concepts of innovative educational space and shows the need the appropriate infrastructure and methodological base that must be developed for the successful integration of these technologies and for further research to determine the optimal strategies for using immersive technologies in the educational process.

In the modern scientific world, the question of combining real and virtual space in the educational process is relevant. Thus, I. Salnyk & E. Siryk (2017) studied the integration of virtual and real physical educational experiments at school.

The essence of an interactive favorable educational environment as a factor in personality formation is revealed in the research of O. Yastrub (2018), where the environment of a modern educational institution is defined as purposefully created conditions in education that ensure mutual understanding and trust between all subjects of the educational process, humane, harmonious relations between them, contribute to the formation of a situation of success in the educational process. The specific signs of the formation of this environment are determined: mobility variability, as indicators of the ability to develop a personality, coherence, and the ability to coordinate the effects of various microenvironments during the implementation of specified educational functions. "An integral criterion of the quality of a favorable interactive educational environment is its ability to provide all subjects of the educational process with opportunities for self-realization and personal development".

Several authors such as Zatsepina, N., Borin, K., Korostel, P., Fonariuk, O., & Doronina, T. (2023), Bilyk, V., Banak, R., Bardadym, O., Sokal, M., & Anichkina, O. (2023), Cherusheva, G., Nowak, B., Maksymenko, A., Kabys, M., & Vakerych, M. (2023), emphasize the need to develop the use of innovative, non-standard, as well as critical thinking teaching methods. It is emphasized that digital technologies have influenced various spheres of social relations, and the main innovative technologies are traced. The effectiveness of interactive learning, modular learning systems, technology of level differentiation, methods of learning through research (using the project method), E-learning, and deep use of digital platforms contribute to the formation of theoretical and practical knowledge of the individual.

However, despite the significant contribution to the development of pedagogy, we see from these studies insufficient disclosure of all ways of creating an interactive educational environment as determinants of personality development, and we only talk about the reflection of certain issues of the application of ways of using audiovisual means in an interactive educational environment as determinants of personality development; creation of a student-centered interactive educational environment, some aspects of the structure of the educational environment and the main results of the theoretical analysis of foreign scientists; comparison and analysis of effective methods of immersive learning in the context of training future specialists.

Today, the problem of creating an interactive educational environment as a determinant of personality development is gaining particular relevance, and today, the priority in society is the creation of conditions for the formation of a personality capable of self-actualization, creative perception of the world, leadership, meaningful activities aimed at the development of society.

THE PURPOSE OF THE ARTICLE is to substantiate the essence of an interactive favorable educational environment as a determinant of personality development.

Methodology

To achieve the goal of the research, a set of theoretical and empirical *RESEARCH METHODS* was used: theoretical – analysis of psychological, pedagogical and philosophical literature to clarify the essence of an interactive favorable educational environment, basic approaches to its development; interpretative and analytical method, which made it possible to carry out a conceptual analysis of research sources using comparison, generalization and interpretation techniques; systematization and classification of approaches to the personal and professional development of the individual, logical-systemic analysis was carried out in order to determine the main principles of the study; empirical – methods of observation, questionnaires, conversations were applied with the purpose of research-experimental verification of the effectiveness of the effectiveness of pedagogical conditions for the formation of the readiness of future specialists to implement an interactive safe educational environment as determinants of personality development during extracurricular educational activities of students, the educational process and professional activities; statistical methods were applied to verify the reliability of experimental research results, quantitative analysis of the obtained data, generalization of conclusions based on statistical processing of the results of the formative experiment regarding the effectiveness of the proposed conditions with the aim of substantiating the essence of an interactive favorable educational environment as a determinant of personality development.

Experimental verification of the effectiveness of pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe educational environment as determinants of personality development became the goal of the pedagogical experiment.

Ethical considerations of research. To confirm the ethics of the study, we obtained the informed consent of the respondents. Before giving their consent, the participants of the experiment were fully informed about the purpose, nature, advantages, and possible risks of the study. This was done in order not to question the validity of our research.

Research and experimental work ensured the confidentiality of individual diagnostic results and was organized based on the principles of objectivity of assessment results, the scientific validity of diagnostic methods, and the reality of the conditions of professional and pedagogical training of each individual in a higher education institution.

Research and experimental work involved the application of objective calculation methods. The results of the experimental study were obtained by a system of methods for measuring the state of readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development: observation, questionnaires, analysis of student learning success, performance of individual research tasks, control, independent, practical work, etc.

During the ascertainment experiment, by surveying respondents, answers were received that indicated the presence of an initial level of cognitive readiness of the respondents. The results of the ascertainment experiment indicate that the vast majority of respondents have an average level and an initial level of readiness for the implementation and design of an interactive, safe, educational environment as determinants of personality development. The obtained results indicate the need to improve the process of forming the readiness of specialists to implement an interactive, safe, educational environment as determinants of personality development through the implementation of pedagogical conditions.

In 2023–2024, a formative experiment was conducted with students of graduation courses. The absence of a special selection of respondents for EG and CG contributed to ensuring the naturalness of the experiment and the representativeness of the sample.

The purpose of the formative experiment was to test the effectiveness of the pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development during extracurricular educational activities of students, the educational process, and professional activities; generalization of conclusions based on statistical processing of the results of the formative experiment regarding the effectiveness of the proposed conditions. At the formative stage of the experiment, research stages were developed, an innovative educational experimental content module, various organizational forms, methods, discussion of reports at and international scientific and practical conferences on professional training of future specialists were

implemented, means of forming the readiness of future specialists to implement and design an interactive, safe, educational environment as determinants of personality development. Following modern trends in the development of higher education, at this stage, the content component of the formation of the readiness of specialists to implement an interactive, safe educational environment was specified as a determinant of personality development, the leading components of this type of training were singled out (stages, content, structure, purpose, diagnostic tools, functions, means, forms, methods of training organization).

To justify the main goal in EG, a practically oriented heuristic method, heuristic conversation, case method, discussion, solution of project and methodical tasks, method of creative projects, and analysis of design systems were applied.

In CG, the educational process was carried out in the conditions of the traditional organization of professional training of students.

In the process of the formative experiment, we obtained results that indicate a discrepancy between indicators of the cognitive criterion of readiness, which is significant. In EG and CG, at the end of the study, the discrepancy was at a personal-oriented – high level – 9.3% in favor of the experimental groups. At the collective-oriented – average level, 6.7% of the changes occurred as a result of an increase in high-level indicators and a simultaneous decrease by 15.3% of the reproductive-oriented – initial level of readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development.

In comparison with the control groups, the dynamics of changes in the studied readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development according to the operational and activity criterion among students of the experimental groups were established:

- Here was an increase of 9.1% at the personal-oriented – high level and by 1.6% at the collective-oriented – medium level due to the increase of the high level;
- By 10.7%, there was a decrease in the number of students at reproductive-oriented – primary level.
- Compared with CG, the dynamics of changes in the readiness of EG respondents to implement and design an interactive, safe, educational environment as determinants of personality development according to the personal criterion revealed
- An 8.6% increase in respondents with a high personal-oriented – level and a 1.5% increase in respondents with a collective-oriented – average level;
- By 10.1%, we observe a decrease in the number of respondents with a reproductive-oriented – initial level of readiness.

The results of the assessment of readiness to implement and design an interactive, safe, educational environment as determinants of personality development in EG according to the competence criterion, in comparison with CG, were as follows:

- By 7.1%, we observe growth at the personal-oriented – high level, and at the collective-oriented – average level, we observe growth of 4.1%;
- By 10.7%, we observe a decrease in the number of respondents with a reproductive-oriented – initial level of readiness.

As a result of the formative experiment, positive dynamics of changes were noted for each of the criteria of readiness of EG respondents to implement and design an interactive, safe educational environment as determinants of personality development. Statistical processing of the results of the studied readiness to implement and design an interactive, safe, educational environment as determinants of personality development among EG students proved a significant advantage over the results obtained by CG respondents.

The significance of the results of the formative experiment was confirmed by the methods of mathematical statistics, as well as the importance and effectiveness of the proposed pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development.

To a large extent, research depends on the reliability and accuracy of the data. As part of the work, the quality of data collection and analysis contributes to the formation of thorough conclusions, which is crucial for academic success.

Using K. Pearson's (1896) non-parametric criterion of agreement (χ^2), the reliability of the obtained research data was proven. The results of the formative experiment proved the practical and scientific efficiency and effectiveness of the proposed pedagogical conditions.

Results and Discussion

Content of key research concepts.

Development potential: not every educational environment has developmental potential, but only that environment in which favorable conditions are created for personality formation. A favorable environment is an environment associated with the integration and humanization of the social environment's influence on personality development. In this context, let's emphasize the inseparability of the factors of the educational environment, the human factor, and the integrity of the system "teacher-student of education – educational innovation environment" (Shuliak et al., 2022).

We consider the educational environment in the following areas: the external environment, which includes the physical environment that surrounds a person, and the internal environment, which creates a psychological climate, a climate of innovative communication and education.

The concept of a "favorable educational environment" includes in its content that the development, education, training, and socialization of a person are not only influenced by the educational and educational actions of the teacher and depend not only on the individual and psychological characteristics of the person. Formation and development of personality its actions take place in certain socio-cultural, interpersonal, spatial, and subject conditions, which can hinder or facilitate personality development under the influence of pedagogical actions. Therefore, it is necessary to take into account the theory of human development when creating a favorable educational environment in educational institutions, where the environment should meet the developmental needs of a person in a socio-cultural context, the education of qualities: initiative, diligence, trust, autonomy, the desire to participate in the development of common rules, the ability to learn, cooperation, respect for peers and teachers, development and maintenance of friendly relations, success and responsibility (Bibyk, 2017).

Having considered the content of the key concepts of the research and emphasizing the inseparability of the factors of the educational environment, the human factor, and the integrity of the system "teacher-learner of education, innovative environment", we believe that a favorable educational environment will be of high quality if it can provide the opportunity to meet the educational needs of all subjects educational process, as well as their personal self-development, development, which are important consequences for educational practice.

The systematization of the properties of the interactive environment and the signs of nature, where personality formation is carried out, to reveal the content of the interactive educational environment as determinants of personality development, determine the expedient need to interpret the concept of "interactive". Interactive is capable of interaction and dialogue, just as the concept of "interactive" comes from the word "interact" (inter-mutual and act-to-act) (Busel, 2005).

Therefore, we analyze the interactive educational environment as a determinant of personality development as:

- Purposeful interaction between the teacher and students of education, the students themselves, their stay in the mode of constant joint action, dialogue, and conversation;
- A system of pedagogical and organizational factors that have a permanent influence on the education of the moral qualities of the individual, among which are the means of professionally oriented education of the individual;
- A system for ensuring the use of interactive methods and forms in the educational and educational work of education seekers in the educational innovation space to promote the formation of personality

self-presentation skills, which encourages education seekers to defend their own opinions and beliefs, to look for different ways of expressing their own opinions and judgments;

- The environment is dynamic and mobile, which takes into account the individual characteristics and needs of those seeking education and constantly responds to the changing conditions of society (Mytnyk et al., 2024).

Specific features and an integral quality criterion of the formation of an interactive favorable educational environment as determinants of personality development with a personally oriented approach to student learning.

Specific signs of the formation of an interactive favorable educational environment as a determinant of personality development are:

- Coherence, as the ability to coordinate the influences and actions of various microenvironments during the implementation of educational functions;
- A favorable interactive educational environment is a dynamic environment that constantly responds to the changing conditions of society, takes into account the needs of the student of education and his individual characteristics;
- The openness of the education system, which conditions and foresees the existence of special types of communicative activity and specific types of relationships that are manifested in dialogic, ethical, and positionally equal interaction;
- Mobility and variability, which are indicators of the ability to develop a personality (Rojas-Bahamón & Arbeláez-Campillo, 2023).

An integral quality criterion of an interactive favorable educational environment as a determinant of personality development is its ability to provide opportunities for creativity, personal development, and self-realization to all subjects of the educational process (Yastrub, 2018).

The development of the personality, the formation of its psychological qualities, and mental functions are conditioned by the innovative environment in which the personality is (Omelchenko, 2018).

Components of an interactive educational environment as determinants of personality development.

Interactive educational environment We consider the educational environment as a structure that includes the following components:

- *Human factor* – selection of educational process applicants, filling of study groups and influence on the social behavior of educational process applicants, features and success of educational process applicants, ethnic characteristics, quality of specialist training, gender and age structure of the educational process applicants contingent;
- *Physical environment* – educational premises, the spatial structure of educational accommodations, size, design, conditions for accommodation, and movement of students of the educational process;
- *Training program* – forms of training activities, methods and style of training, training technologies, the innovative nature of the content of training programs, and the nature of control (Dubatovk & Palamarchuk, 2021).

Digitization and modernization of the educational environment. The use of significant formats of interactive work in the educational environment for personality development.

Recently, we have been witnessing a powerful modernization and digitization of the educational environment in the global educational space. In this regard, traditional interpersonal communication has become increasingly difficult due to the presence of obstacles in the form of tablets, computer screens, and smartphones. Digitization and modernization of the educational environment began its existence somewhat earlier. Back in 2018, sociological studies were conducted that showed that 90% of American teenagers prefer typing messages instead of verbal communication. At that time, 13-17-year-olds received and sent approximately 40 messages per day (Anderson & Jiang, 2018).

Young people who study often realize the value of interpersonal communication, but they lack communication, they cannot do without typing messages, using messengers, chats, etc. Students of higher

education institutions and school pupils prefer "printed communication" instead of live communication in social networks ("likes" and comments) (Balakireva et al., 2019). Such statistics demonstrate the insufficiency of interactive activity in the educational process – an urgent problem of our time. Excellent opportunities for organizing communication are created under any conditions by modern technical means, however, in this direction, an additional task is to increase the motivation of young people to understand the value of live communication and verbal interaction. The interactive nature of the organization of the educational process and the interactivity of learning is a characteristic feature of the modern educational process using computer technologies, which, based on the activation of the processes of a sense of cooperation, reflection, empathy, etc., contributes to the establishment of subject-subject interaction between students and the teacher and students among themselves (Volkova, 2018).

The use of significant formats of interactive work in the educational environment for personality development is of great importance for the modern educational process. The most effective in the educational process is the use of a buzz-group lecture, a lecture with insufficient information, a problematization lecture, an informal lecture, a contract lecture, etc.

The basis of the classes was the following conditions to promote the activation of student communication for personality development in an interactive educational environment:

- The teacher's use of his personal experience as an example;
- As a starting point in the study of the topic – use of the existing experience of the students of the educational process;
- Elucidation of motivation factors of education seekers;
- Consideration of wishes and discussion of favorite learning styles;
- Understanding of education seekers for what purpose it is necessary to perform exercises;
- In the absence of student activity – availability of a flexible lesson plan with the possibility of changing interaction modes or exercise format;
- Activity and initiative in the occupation of education seekers, not the teacher;
- Application of reflection and feedback.

The classes used the following modes of interaction, which involve learning through communication. Innovative types of work were used by these conditions and actively encouraged students to communicate: jigsaw learning, pyramid groups, cross-over groups, Socratic technique, brainstorming, role-playing, business games, open learning, projects, workshops, simulations, guided reading, debates, etc. (Kozmenko et al., 2022).

We will give examples of the use of some formats of interactive work in an interactive educational environment as determinants of personality development.

The "Speaking corners" exercise, for which ambiguous statements are prepared in advance, contributes to the development of the ability to express and substantiate one's own opinion, the development of critical thinking, and the skillful conduct of a discussion. Students in groups discuss their reasoning and present a collective opinion regarding the prepared statement. Students summarize their thoughts and draw conclusions. In the conditions of distance learning using the functionality of virtual rooms, this exercise was used in Zoom video conferences.

An important type of work was the "Living Library", which was carried out during the training. In groups, students get to know "book" people who encourage students to engage in discussion, ask questions, and not just share interesting information. By moving the "books" in the Zoom rooms, the exercise was used in a virtual format. Poll Everywhere, Kialo, and LessWrong platforms are used to conduct discussions and debates in a virtual environment (Konovalenko, 2021).

The use of immersive technologies in an interactive educational environment as determinants of personality development.

Immersion technologies are actively used in institutions of both general education and higher education, which allows for the involvement of students in the learning process and improves the quality of learning. Methodological approaches and educational programs developed based on international experience contain advanced methods of using immersion technologies, which allow an interactive educational environment

to increase student motivation, optimize the learning process, and contribute to personality development (Budnyk et al., 2022).

Immersiveness – this is two-way communication in the learning process, the unification of the human consciousness and the subconscious of the individual, the relaxation of "immersion", during which a deep involvement in a certain activity occurs (Sokolyuk, 2021) by the teaching methods of the group.

Immersion of the individual in the educational environment (immersive environment) and navigation in it makes it possible to "consider the process of including the subject in the "world" of learning, where he can live according to his own laws, which does not correspond to the physical, real-world" (Klochko, 2021).

Different types of immersion are distinguished – immersion in the subjective world, immersion in the virtual environment, and immersion in the physical environment (Kunderevych et al., 2021).

Immersive technology is "an interdisciplinary field that requires the synthesis of many technologies, such as computer graphics, computer-aided design, machine learning, and mobile programming, and requires theoretical knowledge in various fields, such as linear algebra, projection and differential geometry, theory probability, and optimization" (Soroko et al., 2021).

Due to deep immersion in the virtual environment, immersive technologies in education increase the importance of visual aids in the process of acquiring knowledge.

The immersive approach in education includes in the content of its concept "a strategy of cognition, a set of techniques and methods of interactive interaction of the subjects of the educational process for development and self-development of the personality of students in an artificially created virtual environment" (Dymova, 2022).

The presence of several key moments in an interactive educational environment provides an immersive approach that implements the principles of visibility of higher education for personality development. The principle of immersion expands and complements the immersive approach, taking into account technological possibilities and modern trends (Knysh et al., 2024).

In addition to the principle of immersion, the creation of an interactive, immersive educational environment is based on such principles as: selectivity, self-organization, interactivity, presence, physical immediacy, and subjective mediation. We see that the interactive, immersive educational environment is systemic, dynamic, plastic, and holistic. The main advantages of interactive, immersive educational environments are their dynamism, interactivity, and clarity (Shetelya et al., 2023), as well as the possibility of their use in distance education. For this, there are several interactive programs and interactive educational platforms that provide an opportunity to create an immersive educational environment: Altspace VR, InMind, Labster, HistoryMaker VR, zSpaceLabs, High Fidelity, Google Expeditions, The VR Museum of Fine Art Vtime, NeosVR, Universe Sandbox 2, Google EarthVR, The Body VR, etc.

Let's highlight the components of immersive technologies, which are important in an interactive educational environment as determinants of personality development Dymova, I. (2022):

- *Mixed reality (MR)* – integration of the real-world environment and virtual content, which serves to ensure interaction between elements;
- *Augmented reality (AR)* – digital content is superimposed on a certain physical process;
- *Virtual reality (VR)* – the physical environment of the user replaces the digital environment;
- *TelePresence* – a form of remote robotic control in which the human operator feels like he is in another place;
- *Holography* – creating a three-dimensional image in space that can be explored from all sides;
- *FPV drone flight* – so that the user can see the environment from the first person (FPV) – the use of an unmanned aerial vehicle (UAV) with a camera that wirelessly transmits video to a headset, glasses, mobile device, etc.;
- *Digital double* – a virtual replication of a real-world object that connects to the object to receive information so that it can display its current status.

AR, VR, MR headsets, 3D audio, 3D displays, speech recognition, gesture recognition, haptic devices, spatial perception, cameras, drones, etc., are aids for immersive technologies (Dotsenko & Van, 2023).

Today, immersive technologies such as virtual reality (VR), augmented reality (AR), and mixed reality (MR) are gaining more and more popularity in education as a powerful tool in an interactive educational environment, determinants of personal development, to engage learners in the learning process and improve quality of education.

Immersive technologies provide significant support to educators, as they motivate learners, regardless of their skills, to help improve and sustain education. The use of AR, VR, and MR allows simulation of real situations, interactive training, and practical exercises for future specialists. Such an approach contributes to the improvement of the skills of those seeking education and increasing their motivation (Hryhorenko, 2024).

In the conditions of the information and educational environment, the study of professional disciplines requires the use of audiovisual interactive tools that can be submitted using QR codes. Interactive laboratory works are accompanied by a QR code, each lecture contains interactive audiovisual content and is supplemented by interactive content (Hlynsky & Ryazhska, 2018). In the conditions of the information-educational environment, when studying professional disciplines, it is expedient to consolidate theoretical material with the help of educational computer interactive simulators. The use of Moodle (the distance learning platform) provides the participants of the educational process with free access to the discussion of the assigned tasks and their solutions, allowing the teacher to save time in checking the tasks (Mahometa et al., 2018).

The use of virtual laboratories of computers and interactive simulators is important for the interactive educational environment as a determinant of personality development. For the professional training of students of higher education, it is necessary to combine all the components of the course in a single environment; it is not enough to use only educational simulators (Dotsenko, 2019).

Recognizing the scope and possible biases, we will highlight the limitations of the study. The uniqueness of our research is a mandatory criterion of the conducted research work. The research is limited by the chosen topic, the chosen pedagogical conditions, and the method of experimenting. The limitation is private, that is, established by the researchers themselves.

With the help of private research, we focused on the chosen issue from the perspective of the authors. So, the limitations of our research are the clearly defined possibilities of using the chosen context and methods.

Results of an experimental study.

Generalization and interpretation of the results of the conducted pedagogical experiment became the final stage of the research. We will describe the research-experimental verification of the effectiveness of pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development.

The conducted research prompted us to determine the pedagogical conditions that determine the effectiveness of forming the readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development:

- Application of methods of forming professional, positive motivation of future specialists to design an interactive, safe, educational environment as determinants of personality development;
- Step-by-step formation of specialists' readiness to implement an interactive, safe, educational environment as determinants of personality development;
- Implementation of an interactive, safe, educational environment as a determinant of personality development in professional and pedagogical activity.

The process of modeling the interactive, safe, educational environment as determinants of personality development contributed to the content, correction of tasks, the development of the organizational system of the methodology for the formation of the readiness of future specialists for the implementation of the interactive, safe educational environment as determinants of personality development to obtain the expected

results based on predictive assumptions, which provided such a process with an educational space greater flexibility, personal orientation, alternative for all participants of the educational process in the maximum individualization of their educational trajectories.

Experimental verification of the effectiveness of pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe educational environment as determinants of personality development became the goal of the pedagogical experiment.

Effective factors influencing the formation of an interactive, safe, educational environment as determinants of personality development are the level of development of students' skills, the level of their professional and pedagogical knowledge, direction, and development of motivation to master the personal qualities necessary for creating a safe, professional space.

The confirmatory experiment was aimed at determining the levels of readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development.

Research and experimental work ensured the confidentiality of individual diagnostic results and was organized based on the principles of objectivity of assessment results, the scientific validity of diagnostic methods, and the reality of the conditions of professional and pedagogical training of each individual in a higher education institution.

Research and experimental work involved the application of objective calculation methods. The results of the experimental study were obtained by a system of methods for measuring the state of readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development: observation, questionnaires, analysis of student learning success, performance of individual research tasks, control, independent, practical work, etc.

Purposefulness in the performance of tasks of individual and independent work and the level of cognitive activity of students revealed the results of diagnostics.

During the ascertainment experiment, by surveying the respondents, answers were received that indicate the presence of an initial level of cognitive readiness of the respondents, which is characterized by a clear demarcation of the concepts: "educational environment", "interactive, safe, educational environment", "personality development".

Students experienced difficulties when answering questions about awareness of actions to design an interactive, safe, educational environment as determinants of personality development (Fig. 1):

- 89% of respondents named only individual factors (preventing all manifestations of violence in an interactive educational environment, ensuring positive emotional relationships as determinants of personality development, creating a comfortable, interactive educational environment) and supplemented their answers with signs of satisfaction in the cognitive activity of the basic needs of the individual, preservation of self-esteem, support, and assistance, development of abilities and inclinations in the educational environment;
- 11% of respondents (only a small number of students) demonstrated a correct understanding of the concept and listed the features of an interactive, safe educational environment as determinants of personality development.

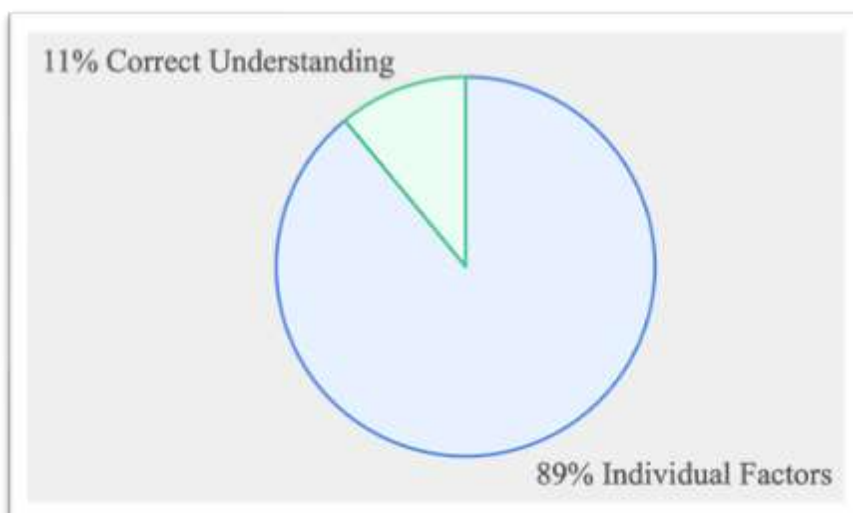


Figure 1. Understanding of factors in the educational environment.

63% of respondents (the majority of students) defined the term "security" and the concept of "safe educational environment" correctly.

But to the proposed question, "What methods of implementing an interactive, safe, educational environment as determinants of personality development do you use in educational activities?" the answers were different: participation in a survey on the prevention and prevention of bullying, compliance with the rules of safe handling of unfamiliar objects in society, observance of tolerance in the student body, formation of a positive microclimate, etc.

The answers to questions about the skills and qualities necessary for the effective implementation and design of an interactive, safe, educational environment as determinants of personality development were as follows (Fig. 2):

- 75% of respondents identified the advantages of administrative and communication skills;
- 25% of respondents identified the advantage of their own example and the ability to promote tolerance, social-emotional literacy, non-violent communication skills, and the ability to cooperate.

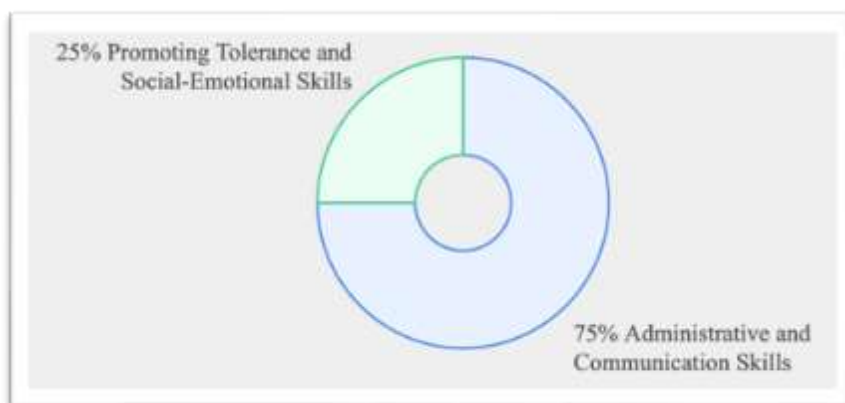


Figure 2. Advantages identified by respondents.

The results of the ascertainment experiment indicate that the vast majority of respondents have an average level and an initial level of readiness to implement and design an interactive, safe, educational environment as determinants of personality development, and only 20% of respondents managed to achieve a high level of readiness of specialists to implement an interactive safe educational environment as determinants personality development.

The obtained results indicate the need to improve the process of forming the readiness of specialists to implement an interactive, safe, educational environment as a determinant of personality development through the implementation of pedagogical conditions.

In 2023–2024, a formative experiment was conducted with students of graduation courses. The absence of a special selection of respondents for EG and CG contributed to ensuring the naturalness of the experiment and the representativeness of the sample.

The purpose of the formative experiment was to test the effectiveness of the pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development during extracurricular educational activities of students, the educational process, and professional activities; making generalizations and conclusions based on statistical processing of the results of the formative experiment regarding the effectiveness of the proposed conditions. At the formative stage of the experiment, research stages were developed, an innovative educational experimental content module, various organizational forms, methods, discussion of reports at and scientific and practical conferences of the international level on the professional training of future specialists were implemented, means of forming the readiness of future specialists to implement and design an interactive, safe, educational environment as determinants of personality development. By modern trends in the development of higher education, at this stage, the content component of the formation of the readiness of specialists to implement an interactive, safe educational environment as a determinant of personality development was specified, the leading components of this type of training were singled out (stages, content, structure, purpose, diagnostic tools, functions, means, forms, methods of training organization).

To justify the main goal in EG, a practically oriented heuristic method, heuristic conversation, case method, discussion, solution of project and methodical tasks, method of creative projects, and analysis of design systems were applied.

In CG, the educational process was carried out in the conditions of the traditional organization of professional training of students.

In the process of the formative experiment, we obtained results that indicate a discrepancy between indicators of the cognitive criterion of readiness, which is significant. In EG and CG, at the end of the study, the discrepancy amounted to a personal-oriented – high level – of 9.3% in favor of the experimental groups. At the collective-oriented – average level, 6.7% of the changes occurred as a result of an increase in high-level indicators and a simultaneous decrease by 15.3% of the reproductive-oriented – initial level of readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development.

In comparison with the control groups, the dynamics of changes in the researched readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development according to the operational and activity criterion among the students of the experimental groups were established:

- There was an increase of 9.1% at the personal-oriented high level and by 1.6% at the collective-oriented average level due to the growth of the high level;
- By 10.7%, there was a decrease in the number of students at the reproductive-oriented primary level.

Compared to CG, the dynamics of changes in the readiness of EG respondents to implement and design an interactive, safe, educational environment as determinants of personality development according to the personal criterion revealed:

- An 8.6% increase in respondents with a high level of personal orientation and a 1.5% increase in respondents with an average level of collective orientation;
- By 10.1%, we observe a decrease in the number of respondents with a reproductive-oriented initial level of readiness.

The results of the evaluation of the readiness to implement and design an interactive, safe, educational environment as determinants of personality development in EG according to the competence criterion, in comparison with CG, were as follows:

- By 7.1%, we observe growth at the personal-oriented high level, and at the collective-oriented medium level, we observe growth of 4.1%;
- By 10.7%, we observe a decrease in the number of respondents with a reproductive-oriented initial level of readiness.

So, as a result of the formative experiment, according to each of the criteria of readiness of EG respondents to implement and design an interactive, safe, educational environment as a determinant of personality development, positive dynamics of changes were noted. Statistical processing of the results of the studied readiness to implement and design an interactive, safe, educational environment as determinants of personality development among EG students proved a significant advantage over the results obtained by the respondents of the control groups.

The significance of the results of the formative experiment was confirmed by the methods of mathematical statistics, as well as the importance and effectiveness of the proposed pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development.

Using K. Pearson's non-parametric criterion of agreement (χ^2), the reliability of the obtained research data was proven. The results of the formative experiment proved the practical and scientific efficiency and effectiveness of the proposed pedagogical conditions.

Conclusions

To use significant formats of interactive work in the educational environment for personal development, the practical direction of digitalization and modernization of the educational environment was revealed.

Experimental verification of the effectiveness of pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe educational environment as determinants of personality development became the goal of the pedagogical experiment.

Research and experimental work involved the application of objective calculation methods. The results of the experimental study were obtained by a system of methods for measuring the state of readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development: observation, questionnaires, analysis of student learning success, performance of individual research tasks, control, independent, practical work, etc.

During the ascertainment experiment, by surveying respondents, answers were received that indicated the presence of an initial level of cognitive readiness of the respondents. The obtained results indicate the need to improve the process of forming the readiness of specialists to implement an interactive, safe, educational environment as determinants of personality development through the implementation of pedagogical conditions.

The purpose of the formative experiment was to test the effectiveness of the pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as a determinant of personality development during extracurricular educational activities of students, the educational process, and professional activities; generalization of conclusions based on statistical processing of the results of the formative experiment regarding the effectiveness of the proposed conditions.

As a result of the formative experiment, positive dynamics of changes were noted for each of the criteria of readiness of EG respondents to implement and design an interactive, safe educational environment as determinants of personality development.

The significance of the results of the formative experiment was confirmed by the methods of mathematical statistics, as well as the importance and effectiveness of the effectiveness of the proposed pedagogical conditions for the formation of the readiness of future specialists to implement an interactive, safe, educational environment as determinants of personality development.

Recognizing the scope and possible biases, we will highlight the limitations of the study. The uniqueness of our research is a mandatory criterion of the conducted research work. The research is limited by the chosen topic, the chosen pedagogical conditions, and the method of experimenting. The limitation is private, that is, established by the researchers themselves.

With the help of private research, we focused on the chosen issue from the perspective of the authors. So, the limitations of our research are the clearly defined possibilities of using the chosen context and methods.

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Design thinking: from the scientist engineer to the philosopher

Дизайн-мислення: від інженера-вченого до інженера-філософа

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Abstract

This article examines design thinking as a novel project paradigm aligned with the polyparadigmatic nature of contemporary philosophical knowledge. It explores design thinking as an innovative approach that rejects the absolutization of a single methodology and analyzes the contradictions of technical creativity within the design thinking context. The phenomenon of design thinking is considered based on complexity theory, transhumanism, transversality of modern scientific knowledge, and the principles of transformation and technologization of modern society. The article traces the formation of design thinking in the context of post-non-classical science. It also analyzes engineering as technical creativity based on two figures: the engineer-scientist and the engineer-artist / designer. The study notes that technical creativity can unfold in different dimensions, such as ignoring potential consequences to achieve goals or focusing on interaction with the world and the communicative community. Technical creativity is seen as an innovative design-thinking component and a

Анотація

Ця стаття розглядає дизайн-мислення як нову парадигму проекту, узгоджену з поліпарадигмальною природою сучасного філософського знання. Вона досліджує дизайн-мислення як інноваційний підхід, що відкидає абсолютизацію однієї методології, та аналізує суперечності технічної творчості в контексті дизайн-мислення. Феномен дизайн-мислення розглядається на основі теорії складності, трансгуманізму, трансверсальності сучасних наукових знань, а також принципів трансформації та технологізації сучасного суспільства. У статті простежується формування дизайн-мислення в контексті постнекласичної науки. Також аналізується інженерія як технічна творчість на основі двох постатей: інженера-науковця та інженера-художника / дизайнера. Дослідження зазначає, що технічна творчість може розгортатися у різних вимірах, таких як ігнорування потенційних наслідків для досягнення цілей або зосередження на взаємодії зі світом і комунікативною спільнотою. Технічна творчість розглядається як інноваційний

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factor transforming the human doer from a scientist-engineer to a philosopher-engineer.

Keywords: creative ability in technology, design and technology, engineering, philosophy, science.

компонент дизайн-мислення та фактор, що перетворює людину-виконавця з науковця-інженера на філософа-інженера.

Ключові слова: дизайн і технології, інженерна справа, наука, творчі здібності в техніці, філософія.

Introduction

Determining the global prospects for the existence of mankind is the marker that demonstrates both the current state of the global community, which is in the situation of the emergence of new opportunities that are still unknown to man, and a clear risk as a consequence of an unweighted scientific policy in relation to alive. This stipulates questions about the formation of the new interaction system between man and nature, man and society, and articulates issues of anthropogenic and environmental challenges that are generated by thinking focused exclusively on the idea of transforming nature / the world. In modern scientific discourse, the main attention is paid to the problems of further development of the social community at the global level in the plane of the concepts of transhumanism and posthumanism, modern technological innovations. The technical and technological component of human activity is not an external factor, but acts as a new dimension of existence. The figure of a human doer as a human engineer acquires a new meaning. Questions arise related to possible sociocultural changes affecting modern transformation processes. New projections and possibilities for constructing the desired changes, including social ones, arise. This corresponds to the situation of post-non-classical science, which proclaims a new methodology. Modern post-non-classical discourse is based on plurality, alternativeness, polyvariance, which denies the possibility of monological development of scientific knowledge, includes paradigms that intersect and interact like a rhizome, and form new methodological possibilities. Post-classical science in the situation of Industrial Revolution 4.0 receives a new configuration, becomes a metaparadigm. This provokes new approaches to understanding the figure of the human creator as a human designer and engineering thinking, which is gradually being replaced by design thinking. The specificity of the modern post-non-classical scientific picture of the world is the fusion of scientific, technical and social-humanitarian knowledge, which requires justification in the context of active human activity, thereby focusing on the need to change public consciousness, stipulating a new approach to the concepts of “engineering activity”, “engineering thinking”, “technological creativity”.

The aim of the article is researching design thinking, firstly, as a multidimensional phenomenon that acquires fundamental importance in a situation of the cognitive paradigm changing, which is associated with technological shifts in the context of the Industrial Revolution 4.0. Secondly, as an innovative approach that denies the absolutization of a single methodology, deepens the philosophical reduction and forms the foundations of critical comprehension within the framework of the transhumanical concept of scientific knowledge. This approach allows us to talk about the transformation of the engineer's figure: from engineer-scientist to engineer-philosopher. Thirdly, as a methodology for the implementation of technical creativity, one of the aspects of which is the formation of responsible engineering activities.

Literature review

Representations of the design theory application include: the concept of a zero-waste society (Murray, 2002), the cradle-to-cradle society project proposed by the architect U. McDonough and the chemist M. Braungart (McDonough & Braungart, 2002), the project “Technologies and Social Actions” (TSA), where the possibilities of applying modern technologies focused on social transformations based on the principle of social justice are explored (Walker & Dearden, 2021) and others. These works emphasize the empirical importance of the application of design theory, which allows us to approach the reasoned analysis of social processes, the process of technical creativity and the situation of a person who is at the intersection of rapid changes. Thus, the researchers in the study “Posthuman Freedom as the Right to Unlimited Pleasure” (Meliakova et al., 2021) articulate the question of post-modernity and post-post-modernity. They emphasize the need to rethink the deep issues of human existence and comprehend the scenarios for the further existence of mankind, which acquires a new formulation in the context of design thinking as a new strategy. It is about a paradigm shift, about the formation of flexible approaches that can take into account the complexity of social systems. Thus, the report of the World Economic Forum “The Future of Jobs Report 2020” (World Economic Future, 2020) provides skills that, according to researchers, will be decisive for

humans in 2025. These skills (analytical thinking and innovation, complex problem solving, critical thinking and analysis, creativity, originality and initiative, design of technologies and programming, etc.) demonstrate not only a change in the scientific paradigm from monologism to polylogism, but also argue the significance of the figure of the design engineer.

J. Johnson (2010) suggests that design remains within aesthetic boundaries, despite the systemic nature of social reality. He emphasizes that designers study complex systems, while scientists do not take into account the innovative opportunities that design can provide as a methodological approach. Design, according to the scientist, is a methodology of coordination between the formulation of the problem and the development of a solution. This idea is important in the context of our research, because it allows us to consider design thinking as a factor in the transformation of the figure of an engineer: from an engineer-scientist to an engineer-philosopher. Design, according to Vilem Flusser (Flusser, 1999), is one of the main elements of modern culture, because it has a direct impact on the human being in the community. The philosophy of design allows us to eliminate the contradictions between scientific and technical development, transforming the material world, and the situation of a person whose way of thinking is undergoing significant changes. The importance of design philosophy as a more powerful methodology than that provided by design theory is argued. In J. Jewitt's study "Screens and the Social Landscape" (Jewitt, 2006), design theory is considered in the context of an interdisciplinary approach. The development of new approaches to the theory of complexity and the possibilities of its application to design theory is emphasized by J. Johnson in the scientific work "Comprehension of complexity in design" (Johnson, 2010). Analysis of the literature suggests that design theory can be understood as a methodological platform that focuses on a new format of technological / innovative activities. The application of the concept of "design thinking" in modern post-non-classical discourse complements the innovative matrix of design philosophy.

Methodology

The study has a theoretical character and is aimed at analyzing the phenomenon of design thinking. The authors applied an interdisciplinary approach, which allowed us to take a comprehensive examination to this topic. This made it possible, firstly, to consider design thinking as an innovative project, secondly, to explore technical creativity in the projections of design thinking and the transformation of the figure of an engineer-scientist. The polyparadigmality of scientific and philosophical knowledge is the main methodological guideline that provided the authors with flexibility and breadth of views in the study. During the study, the following principles were used: transhumanitarianism (the need to take into account the humanitarian aspect), transversality (the impossibility of using a single methodology in the context of overcoming scientific monoparadigma), transformation (the state of constant changes in the social system) and technologization (technology as a factor in the transformation of the social system). To achieve the set goal, the following methods were applied: cognitivist, phenomenological, postmodern deconstruction and the method of anthropological reduction. The cognitive method made it possible to explore the requirements for the processes of thinking and cognition in the context of society's requests for the creation of innovative ideas and solutions, and to focus on the concept of "design thinking". The application of the phenomenological method helped to explore the design thinking phenomenon in the plurality of its interpretations, taking into account the specifics of scientific directions. The method of postmodern deconstruction was used to interpret the figure of the engineer-scientist and the engineer-philosopher. The use of the anthropological reduction method is justified by the existing technical and technological transformations that exert significant pressure on the human situation.

Results and discussion

The unity of the diverse, forming integrity and adaptation, highlights the need for design thinking as a project paradigm that overcomes scientific solution limitations. This corresponds to the polyparadigm of modern philosophical knowledge. Design thinking in modern scientific discourse is a project paradigm that can overcome the limitations and monologic of scientific solutions. Social, anthropological and ecological challenges require innovative approaches to solving existing contradictions, which makes us turn to the problem of engineering activity.

Human history reflects the growth of technical power, constructing and manipulating the world, with a risk of becoming exclusively technological, embodying the ideal of Homo Faber.

Engineering is essential for society's development and serves as a transversal practice that transcends limits and transforms strategies. Engineering activities that were carried out within the framework of classical and non-classical science focused on progress, and achieved significant success in the process of creating a world for humans, which can be interpreted in the context of David Deutsch's study "The Beginning of Infinity: Explanations that Transform the World" (Deutsch, 2012). The researcher emphasizes and absolutizes the gnosiological optimism of science, and, accordingly, of man, because everything that corresponds to the laws of nature, the latter is able to know, subject to the appropriate level of knowledge. Science receives a new level of power like "God did not create the Universe" (Hawking, 2019, p. 45), which requires an appropriate attitude towards both the scientist and the engineer, who is the Demiurge, whose activity is a kind of interpretation of the state of science of a certain era, allowing us to talk about the presence of an engineer-scientist figure.

For classical and non-classical science, the main task was to comprehend the existence of objective reality and was based on an analytical approach, which corresponded to the thinking system of a human engineer, capable of realizing a clear algorithm in explaining and applying the appropriate scientific tools to create certain objects/ techniques. This led to a clear specialization that eliminated the possibility of a holistic worldview. Thus, within the framework of the CDIO™ initiative (an innovative educational program for training engineers of the new generation), it is noted that the main task in the formation of engineering thinking is the inclusion of a humanitarian component, which allows combining theory and practice, creating an appropriate platform for the implementation of engineering activities (Conceive Design Implement Operate, n.d.). Strict specialization, according to experts, is a factor that negatively affects the implementation of engineering activities. Therefore, the successful application of design thinking is not possible without the integration of technological and humanitarian knowledge. Let us present a picture illustrating the relevance of the design philosophy methodology.

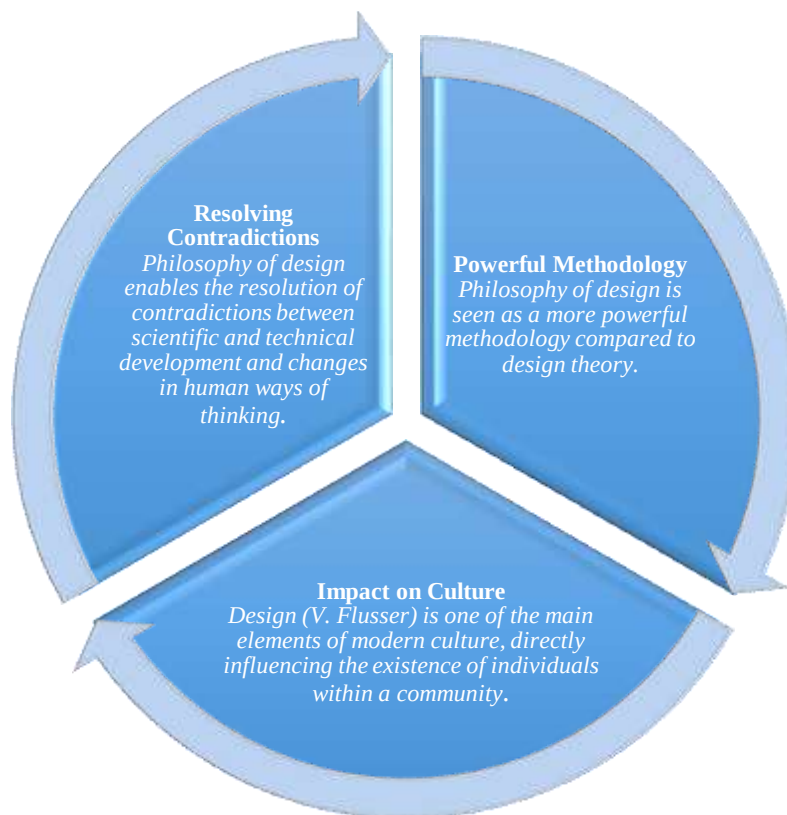


Figure 1. Key Aspects of the Philosophy of Design.

The essence of things surrounding a person is not open to him. This cognition cannot occur without taking into account all possible circumstances and events, that is, *systems thinking / engineering thinking* about the unity of the world. The process of comprehending the circumstances of life is associated with the construction of *ideas / technological creativity*, on the basis of which a person acts as an "architect" of the

world. Under these conditions, a person is able to comprehend the world in the context of truly caring about the problem of life. The complementarity of the world as a system and man as a component of this system is articulated. The emphasis on the human engineer in the context of the above imperatives allows us to address the problem of the latter's self-identification according to such criteria as "self-awareness / self-determination", "value orientations, worldview guidelines", "active activity / technological creativity". These criteria form a matrix that determines the direction of engineering activity, which most often illustrates the exhypothesis effect, that is, it takes into account only hypothetical negative effects, including social projects for the existence of mankind.

The artificial world as a world created by human activity is a specific chronotope, the existence of which is impossible not only without engineering activity, but also economic rationality and the psychology of thinking, which Herbert Simon (1996) emphasizes in his study "The Science of the Artificial." To understand the existing contradictions, he proposes to use the concepts of "native sciences" (natural sciences, biological sciences, chemical sciences, etc.) and "artificial sciences" (architecture, art history, medical sciences, etc.). Thus, "artificial sciences" are always in danger of disappearing / dissolving. This is due to the fact that the boundary separating the outer and inner, artificial and natural, is quite thin and changeable. At the same time, the "artificial" acts as a kind of interface / surface / communication channel, thanks to which information is exchanged in the system, which is the environment. In this regard, the interface is also understood as a set of rules and norms that define these interactions.

"Artificial sciences" define social planning / creation of social projects, which cannot occur without taking into account such constants as "complexity" and "hierarchical systems". For a researcher, engineering activity is a representation of "artificial science", the main task of which is to create a correspondence between internal and external, that is, to achieve harmony between resources / knowledge and the possibilities of their implementation / realization.

An engineer-scientist whose activity is responsible for the creation of the artificial world acts as a designer-practical, responsible for the coordination of external and internal. In this sense, we can talk about the fusion of the content of these concepts and a successful combination with the content of the concept of design, which belongs to a different epistemic culture, but plays an important role in the creation of a new semantic ability (tags). This, in turn, makes it possible to expand the horizon of understanding the socially significant mission of an engineer – from a artisan and creative inventor to an "independent curator," that is, an engineer-philosopher. Note that the critical thinking of such a specialist, or in a broader sense, design thinking, is determined by the presence of three main criteria: communication skills, organizational ability and alternativeness of rationality forms. In other words, the formula of economic rationality (Simon, 1996), which is commonly used by engineers in their activity, saturates with humanistic meanings.

At the same time, the multiplicity of engineering principles and practices defines the new philosophy of design thinking. Since design is a response to the transformation processes of modern society and requires a new approach to both special sciences and specialization in the context of engineering activities. First, the design certifies the level and capabilities of technological intervention; secondly, design is a project activity (Walker & Dearden, 2021). And in the first and second cases we are talking about the system "society – technology – people". From this perspective the built product is seen to demonstrate (or prove) the intellectual and 'reasoned' control of the design process by the designer, the responses of the user, and the economic, intellectual or professional success of the product" (Rendell & Rawes, 2007, p. 1). This indicates the formation of design thinking that can embrace the creation of a new plane of interaction, combining scientific activities and engineering activities based not only on the requirements to meet the needs of society, but also on a responsible attitude towards the consequences of this activity.

For example, design thinking is applied in the healthcare sector for a deeper understanding of the needs of patients and medical professionals, implemented in educational programs, and actively introduced in the fields of ecology and social innovation. For instance, design thinking has been used to develop environmentally friendly transportation solutions. A good example of design thinking in action is the "smart city" projects, where technical solutions (such as public transportation systems, etc.) are combined with the needs of the city's residents (considering their experiences, social inclusivity, etc.). This approach allows the integration of science and technology into everyday life, taking into account humanitarian and social aspects.

This allows us to assert that the worldview component of philosophy, as well as its therapeutic function, provide interdisciplinary support. This fastening protects the human creator from the temptation to “have” (Flusser, 1999). In particular, the designer-scientist at Goldsmiths College, University of London, director of the project “Design Synergy in the 21st Century”, draws attention to this. John Wood (2007) notes the importance of building a new engagement platform that responds to an interdisciplinary approach, on the creation of not “superficial” bridges between scientists such as art historians and computer scientists or persons of scientific and technical and socio-humanitarian knowledge, personifying different “languages” of cultures in the formation of abyssal connections. Design thinking becomes the principle of overcoming the limitations of functional rationality introduced by the Enlightenment era. Only under this condition, the scientist emphasizes, will there be no losers in the “nature – man – society” system, because the created matrix will be specified by the parameters “win – win – win – win –”, after all, with the coordinated interaction of these components, provided that their needs are taken into account, the result of the interaction will be greater than the effectiveness of meeting the needs of only one of them. We can observe the inconsistency of their interaction as ecological and anthropological crises.

It's about designing for the planet, designing for health, designing for social impact, designing for a biological future, etc. These projects are both short-term and long-term, the main task of which is a combination of technology, aesthetics and business factors that are concentrated around the person, that is, they are human-oriented. This is precisely what is noted in the regulations of the Stanford University School of Engineering.

The mission of the Design (formerly Product Design) program is to graduate designers who can synthesize technology, aesthetics, and business factors in service of human need. Students emerge with both a strong engineering depth and technical know-how, as well as creative, visual thinking abilities and a deeply human-centered orientation to problem-solving. Their ability to seamlessly integrate across these two “right brain / left-brain” ways of thinking empowers them to make and build products, services, and experiences with transformative potential in service of people and planet (Stanford University, n.d.).

There is a transformation of engineering thinking into design thinking.

Design thinking makes it possible to combine technological thinking as an activity and technological thinking as an art in the plane of post-non-classical science. A new field of interaction is being created, where practices of transgression are formed (overcoming the opposition “possible – impossible”) as linear thinking, which allows us to talk about the actualization of the principle of transversality, implemented by design thinking. The designer is understood as the architect of new actions; accordingly, design thinking acts as a projection, the ability to identify new perspectives. Now to act / create is to design, but in violation of systematic hypotheses and ordered procedures. A new image of a human engineer emerges, whose thinking, as it were, through-and-through, embraces and permeates the scrupulousness of the scientific engineer, while simultaneously adding the eccentricity of the artist. There is a change in a person's self-identification.

The application of design thinking is associated with existing contradictions, problematic situations, hidden tasks that require a new vision, a kind of deconstruction. Design thinking is aimed at activating the person, forming the need to take responsibility for the chosen decisions, developing critical and independent thinking, able to accept different points of view / argumentation, thereby strengthening the ability to communicate. This thinking creates common coordinates, a single plane, which helps to give an innovative project a solution to existing problems, indicates multivariate actions aimed at overcoming blind spots/cognitive distortions, which contributes to the formation of an innovative mental map. Design thinking involves “if-then” implication, which creates the illusion of linear thinking, but in fact acts as a driving force for the formation of hypotheses that form a certain rhizome.

Bill Burnett and Dave Evans, in their study “Designing Your Life” (Burnett & Evans, 2016), explain the stages of implementing design thinking as principles (empathy/immersion, problem definition / focus, idea generation / creation, and prototyping) and suggest applying these principles in everyday life. This approach goes beyond purely cognitive conceptualization. The question arises regarding the relationship between design thinking and engineering activities.

Thus, design thinking forms a new approach to engineering activities. The application of design thinking allows not only to overcome the schematic and rigid nature of technological actions but also to create new

opportunities for creative thinking. It is about adapting to the complex challenges that define the realities of the present.

In the modern post-non-classical scientific discourse, the importance of applying concepts such as “justice”, “intellectual perseverance”, “intellectual honesty”, and “intellectual humility” (Niewoehner, 2006, p. 3) is emphasized. According to Robert J. Niewoehner. (2006), the inclusion of the emotional dimension will help avoid ego- and socio-centrism in the practice of engineering activities.

We are talking about the formation of new relevant competencies that create an “updated” cognitive map and meet the modern trends of the society that is undergoing transformational changes. A peculiar cognitive map is formed. Thus, Richard Slimbach emphasizes that the ability to adapt to changes is possible when there are competences, which are divided into six categories: perspective consciousness combining critical thinking and emotional intelligence; ethnographic skills as a manifestation of intercultural interaction; global awareness as a possibility of systemic thinking about the existence of mankind; studying the world as an awareness of the unified history of mankind; foreign language proficiency and affective development (sincerity, gentleness, fairness, etc.) (Slimbach, 2005).

This specific situation indicates a change in the image of a scientist, researcher, engineer, artist, responding to the phenomenon of lateral thinking, overcoming the absolutization of instrumental reason. This thinking is understood as a creative approach to resolving existing contradictions in the process of improving existing techniques and technologies and is a component of design thinking. The significance of non-standard thinking, which is included in the configuration of design thinking in the situation of the new communication landscape formation, allowing to take into account the whole system of interactions, is articulated.

Engineering as technological creativity is imprinted in human nature, however, this creativity can have different manifestations, forming an engineer-scientist, which strives to constantly transform the world based on the application of a clear scientific paradigm and technology without regard to the possible consequences and an engineer-artist / designer focused on interaction with the world and the communication community, and finds its expression in design thinking.

Rather, technology design and use become blurred as forms of bricolage and improvisation which bring together diverse materials and people in flexible arrangements to get things done. This further suggests that more open-ended design approaches and methods are required which can take account of the complex and dynamic interrelationships between people, organisations (both formal and informal) and technologies (Walker & Dearden, 2021).

This, of course, requires the use of complex systems methodology to include the entire multiplicity of existing components, such as nature, planet, man, society and the entire multiplicity of their actions and interactions.

A new matrix is formed where the activities of a human engineer unfold, the flexible configuration of which allows not only to create a project, but also to take into account all possible variables. Thus, J. Wood (2007) in his study illustrates design thinking based on criteria such as movement and action (focus on achieving specific results); communication (creation of new meanings, meanings aimed at improving co-action in resolving contradictions / creating projects); comprehension and representation (anticipating possibilities and proposing alternatives); new knowledge (construction of new mental maps based on innovative approaches). The main task is to construct the right questions that will answer the query regarding the aspirations of man and humanity. We are talking about the possibilities of project activity of a modern person. If the construction of a new reality is already technically feasible, then a person not only must adapt to these changes, but also meet the existing challenges, including technological ones, but think differently, be able to carry out his own projects of finding himself.

Design thinking is a process of co-creation, where the depersonalization of homofaber is overcome, meeting the needs of communicative philosophy. Thus, François L'Yvonnet refers to the figure of the philosopher-engineer to resolve existing contradictions. “The engineer-philosopher is a man of action: far from the figure of the cabinet man, the dreamer, or the academic” (L'Yvonnet, 2023). An engineer-philosopher is a person who is not only aware of the existing risks and dangers of the modern world, but also responsible for his own actions. It proclaims the possibility of constructive dialogue, the discourse of the scientific

community in a situation where technology, rather than culture, determines social. The question arises: is man a creator or a result of creation, causing new paradoxes of being, which indicates a new anthropological challenge. Design thinking is an action, a strategy for realizing a vision, an image of the future. Design thinking testifies to the extension of the horizons of human consciousness, because the rigid system of imperatives is experiencing destruction. Let us present a picture illustrates the evolution of engineering thinking in the era of design.



Figure 2. Evolution of the Engineer's Role: from Engineer-Scientist to Engineer-Philosopher.

The center of design thinking is a person, and this forces us to turn to the deep meaning of this methodology: is design thinking a new dimension of the anthropocentric approach or a strengthening of the human-oriented paradigm? The solution to this dilemma is of undoubted importance for understanding the situation of modern society: the society of consumption versus a society of sustainable development. In both cases, the main doer is a human engineer, but the main difference lies precisely in understanding the consequences of actions in the coordinate system of "subject – subject" relations or "subject – object" relations.

So, a new thought trend is formed – design thinking, the task of which is to eliminate rigid boundaries. This testifies to the transformations affecting the cognitive and design activity of human, actualizing the requirement in the philosophical substantiation. What we are witnessing today: the existing environmental and anthropological risks are a consequence of precisely the consumer, utilitarian attitude towards the environment, supported by the ethics of consumption. Reorientation, the transition from goal-rational action, characteristic for a human engineer, to the value-rational action, characteristic for engineer-philosopher creates new opportunities for reconciling existing contradictions. Deserves special attention: firstly, updating a creative rather than analytical approach to solving assigned problems; secondly, the innovativeness of solutions includes an emotional component combined with the desire to go beyond established boundaries.

Design thinking expands horizons, viewing challenges as opportunities and creating a unified research field, drawing specialists from various industries. The application of design thinking opens up new opportunities for a systemic vision of the existing risks to the future existence of humanity and for the justification of projects aimed at eliminating the gap between the human and non-human, the natural and the artificial. Understanding design thinking as cross-cutting thinking indicates its transversal nature, meeting the needs of the modern world.

Conclusions

The study reveals the role of design thinking as an innovative / transversal methodology, which acts as a platform that provides a systemic vision and a creative approach to solving complex social, technological and environmental problems. Design thinking is considered as a tool for transforming scientific discourse,

which is finally able to overcome the limitations of the monologue approach that meets the needs of the modern scientific community and society as a whole.

The unique contribution of the study lies in highlighting design thinking as a multidimensional phenomenon, combining scientific, technological, and social modes. This allows us to focus on the formation of creative and more responsible approaches to understanding engineering activities in the context of transforming the figure of the human-engineer: from engineer-scientist to engineer-philosopher. An appeal to the phenomenon of design thinking in the educational process, in particular in the training of modern engineers, will strengthen the humanitarian component of their training, which is a request of society, which is in a situation of social transformations and strengthening of human interaction with technological systems.

The application of the design thinking methodology can be useful in many fields of knowledge, including social sciences and humanities, aimed at researching social transformations and changes in the human condition; in education for the preparation of professionals capable of critical rationality; and in engineering and technical disciplines, where the application of design thinking will promote the integration of the humanitarian principle into technical education and reinforce the principle of engineer-scientist responsibility. The study of design thinking is directly significant for enhancing the argumentation of the scientist's ethics in the context of the philosophy of science.

The study deepens the understanding of the interdisciplinary nature of design thinking, which is important for contemporary philosophy and science. Design thinking forms a new space in which there is a mutual coordination of the economic, technological, social and humanistic meanings of the human creator, which meets the principle of the human dimension of modern post-non-classical science and enhances the transhumanization of the latter. Design thinking recognizes, firstly, the possible consequences of the nature transformation by a human doer / human engineer; secondly, it recognizes the many global problems of our time and the impossibility of solving these problems on the basis of a single methodology; thirdly, it recognizes the importance of the humanitarian component in resolving existing contradictions between the co-being of man and nature. Design thinking is not only the creation of prototypes, not only a focus on economic benefit and taking into account the wishes of the person himself, his requests and needs, which are changing in the modern technologized world, but also the formation of a sense of responsibility. We are talking about a new level of communication that meets the needs of modern society.

The prospects for further research on this topic can be seen in the detailed study of the following aspects, which require deeper analysis:

Firstly, in the context of the transhumanization of modern science, the application of the design thinking methodology will allow for a more detailed exploration of the convergence between economic, technological, and social systems.

Secondly, the application of the design thinking methodology enables a focus on the issue of multidisciplinary, which primarily requires the involvement of experts from various scientific fields and the justification of new ways of integrating scientists to solve complex issues. Special attention should be paid to the formation of responsibility within the framework of design thinking, which will contribute to clarifying the ethics of the scientist.

Thirdly, studying the specific mechanisms for implementing design thinking in the fields of engineering and technology opens new opportunities for the development of approaches to solving modern ecological and anthropogenic problems, which are the result of engineer-scientist activities. Conducting empirical research will allow for a more detailed determination of the impact of design thinking on engineering activities.

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Resilience and resistance: Ukrainian art under martial law

Стійкість і опір: українське мистецтво в умовах воєнного стану

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Abstract

The modern military realities of the deployment of Russian aggression against Ukraine have an impact on the development of Ukrainian cultural life and prompts the rethinking of existing concepts as well as the expansion of research areas in the history of art. The purpose of the proposed article is to study the current state of Ukrainian art, its scientific and phenomenological understanding, and to determine possible future vectors for scientific discoveries in this field. This study is important and relevant, especially given the need for a more detailed study of the state of art in crisis conditions. Several scientific methods were used to realize this goal, in particular, the method of content analysis of scientific literature selected for research, the method of comparison to achieve objectivity when considering the main material. The results noted that Russian aggression led to the emergence of new trends in Ukrainian art that indicate experiences, aesthetics, emotions and social changes in society against the

Анотація

Сучасні воєнні реалії розгортання російської агресії проти України має вплив на розвиток українського культурного життя та спонукає до переосмислення як уже існуючих концепцій, так і розширення напрямів досліджень із історії мистецтва. Мета пропонованої статті – дослідження сучасного стану українського мистецтва, його науково-феноменологічного осмислення, визначенні можливих подальших векторів для наукових відкриттів у цій галузі. Для реалізації вказаної мети використано декілька наукових методів, зокрема метод контент-аналізу підібраної для дослідження наукової літератури, метод порівняння для досягнення об'єктивності під час розгляду основного матеріалу. У результатах відзначено, що російська агресія призвела до появи нових тенденцій в українському мистецтві, які вказують на переживання, естетику, емоції та соціальні зміни в суспільстві на тлі змін в колективній пам'яті та історичній свідомості.

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background of changes in collective memory and historical consciousness. The interest in military themes in Ukrainian art only increased interest in the study of the history of Ukrainian art in general. Art forms that protest against aggression and express solidarity with the victims of war have also developed: street art, digital projects, posters and banners that are actively distributed on the Internet. The conclusions emphasize that even during such actualization, Ukrainian artists actively refer to historical roots, traditions, and symbols in order to emphasize the uniqueness of Ukrainian culture.

Keywords: ontology of art, cultural identity, collective memory, historical consciousness, ethical dimensions of war, socio-cultural dynamics, traditions, innovations, artistic features.

Introduction

The study of Ukrainian art history plays a vital role in preserving and understanding the nation's cultural heritage. However, in the context of martial law and ongoing military conflict, this field faces unprecedented challenges and demands a reevaluation of its priorities and methodologies. For this reason, these modern realities necessitate rethinking established concepts, expanding research agendas, and addressing the urgent need to document, preserve, and restore cultural artifacts at risk of destruction.

According to the research of modern scientists, the problems of studying, preserving, restoring and documenting cultural objects that have become, or may become a target for destructive forces, come to the fore. In such conditions, an urgent task is not just an analysis of the past, but also active research in the field of shaping the future of national culture. The current state of war calls for immediate scholarly attention to these issues, positioning the study of Ukrainian art within a broader discourse on resilience, memory, and national identity.

The central research problem lies in understanding how Ukrainian art has been impacted by war and identifying the most effective strategies for its preservation and future development. This involves not only cataloging the effects of conflict on the nation's artistic heritage but also exploring how contemporary artistic processes respond to and reflect the realities of war. Hence, the main focus of the research will be on identifying and analyzing those questions from the history of Ukrainian art that are particularly important within the framework of military realities. This will include not only a study of the theoretical basis of the development of Ukrainian art, a summation of the achievements of scientists in this field, but also an analysis of modern artistic processes that reflect the realities of war. It is obvious that the main perspectives of scientific discoveries in the field of the history of Ukrainian art relate to new approaches and innovative methods, which is determined by the requirements of the time.

The purpose of the study is to research the current state of Ukrainian art, its scientific and phenomenological understanding. In addition, this study also aims to characterize the main directions of the development of the history of Ukrainian art, taking into account the current military realities. Accordingly, the research objectives are as follows:

1. Analyze the current state of Ukrainian art in the context of war.
2. Summarize key contributions by scholars to the field of Ukrainian art history.
3. Examine contemporary artistic practices that address the challenges of conflict.
4. Propose priority areas for future research and innovative methods to support the preservation and development of Ukrainian art.

The structure of the article consists of a critical review of the literature, which presents the latest research by scientists regarding the impact of war on art, a section on research methodology, which presents the

Показано, що зацікавлення воєнною тематикою в українському мистецтві лише посилює зацікавлення у дослідженні історії українського мистецтва загалом. Отримали розвиток також такі форми мистецтва, які протестують проти агресії та висловлюють солідарність з жертвами війни: вияви вуличного мистецтва, цифрові проєкти, плакати і банери, які активно розповсюджуються в Інтернеті. У висновках підкреслено, що навіть під час такої актуалізації українські митці активно звертаються до історичних коренів, традицій та символів, щоби підкреслити унікальність української культури.

Ключові слова: онтологія мистецтва, культурна ідентичність, колективна пам'ять, історична свідомість, етичні виміри війни, соціокультурна динаміка, традиції, інновації, художні особливості.

procedure for collecting scientific literature and methods. The results section consists of an analysis of the impact of the war on art, coverage of the current state of Ukrainian urbanism, and key achievements of modern artists are identified. The other part of the results describes the main challenges facing the art industry in Ukraine. The discussion discussed certain problematic aspects of the development of Ukrainian art in the conditions of war, in particular, the discussion regarding the implementation of digitization solutions was recognized in detail. The last part - conclusions - summarizes the obtained results and characterizes future indirect research on this topic. In particular, the importance of conducting further empirical research is indicated.

Literature review

The topic of the role of art in the era of war is quite widely presented in the space of modern scientific experiments. Specifically, authors who had addressed the issue of the impact of the Russian-Ukrainian war on Ukrainian art have demonstrated a fundamental understanding of this topic. In particular, a number of authors had addressed the topic of national identity and its reflection in art during the war. Christodoulou (2023) researched the important issue of process of development of the national identity in the conditions of war. His research is vital to understanding the role on cultural heritage in the conditionals of war.

According to Krawchuk (2024), the war is having an effect on how people view Ukrainian history and culture. In addition, writers had viewed artistic creations as national self-expression platforms and a means of social cohesion against the Russian menace (Olzacka, 2023). On the other hand, there is also a noticeable trend of preserving cultural heritage in scientific discourse. In particular, the issue of preserving and restoring cultural heritage in wartime is highlighted in the works of a number of contemporary authors (Mick, 2023). In a thorough study by Minakov et al. (2021) outlined the main milestones of the development of Ukrainian art through the ages, the authors put a special emphasis on the period of transformation of Ukrainian art since Ukraine gained independence.

In the modern scientific discourse, there are also topics related to the mechanisms of preservation of artistic heritage. In particular, this can be done with the help of evacuation or conservation of artistic and cultural objects. In addition, the scientific literature also emphasizes the importance of implementing various international projects aimed at supporting the functioning of art academies, museums, exhibitions or archives (Burakov & Pytlova, 2023).

Another important direction, which is observed during a detailed review and analysis of literary sources, is the study of art as a way of resistance in wartime. In particular, in the studies of Ober et al. (2024) and Graf (2024) presented the issue of using various forms of artistic activity as a protest against military aggression. Also, in this scientific literature, it is determined that works of art also play the role of peculiar symbols of national resistance.

The fundamental work is the work by Belinsky et al. (2023), in which the authors described the role of photography in reproducing the tragedies of war. Modern studies also were focused on the analysis of street art, installations or other different forms that emerge as a response to the military realities (Martynyuk, 2022; Kot et al., 2024). The study of documentary programs, photographs, and television podcasts had also become a prominent area in contemporary scholarship (Lytvynenko, 2023; Kysliuk, 2023). Besides, scholars had also characterized the role of artists in maintaining the spirit of the Ukrainian people during the war (Lytvyn, 2023). In a monograph, Freedman (2019) presented the historical foundations of the conflict between Ukraine and Russia and characterized the functioning of the social sphere during the war. At the same time, Christodoulou (2023) described the key aspects of preserving cultural heritage during wars. A chapter from the collective monograph Zelenska & Mykhalchuk (2023) is also devoted to similar problems, which describes the realities and difficulties of preserving cultural and artistic gardens in Ukraine in wartime conditions. An important direction of the current academic debate regarding the preservation of cultural heritage is the use of modern digital technologies for its digitization. Some researchers emphasize the importance of such a solution, others point out that in wartime it is important to transport important materials and implement digitization after the war or in areas less affected by hostilities. The study by Lytvyn (2023) characterizes the role of the Union of Artists of Ukraine in the development of Ukrainian culture in wartime. Moreover, Lashchuk (2018) characterized how Ukrainian artists from Crimea and Donbas use art to restore memory and identity after forced displacement. The researcher also drew attention to the cultural adaptation and revival of artistic traditions in the context of war.

On the other hand, Levytska (2024) identified the main practices of artistic resistance and media activism in Ukraine during the war. She also described the mechanisms of using art as a form of protest to fight for national identity. Besides, Kornev (2024) described the activities of the Kharkiv Union of Artists of Ukraine during the war. The author also focused on their challenges and adaptation strategies in the context of hostilities. Thus, in the modern scientific field, there are various areas of research on the development and transformation of Ukrainian culture during the war (See Figure 1).

Development of national identity through art and culture in times of war	Christodoulou (2023) Krawchuk (2024) Ober et al. (2024) Graf (2024) Ivanets & Krasnodemska (2022) Hranchak (2024)
Art as a means of nation's self-expression and consolidation of society	Olzacka (2023) Olzacka (2024) Ober et al. (2024) Graf (2024) Belinskyi et al. (2023) Martynyuk (2022) Kot et al. (2024) Ilchuk (2017)
Topics of protest art	Lytvyn (2023) Lashchuk (2018) Levytska (2024) Kornev (2024) Fedorenko (2021) Gurieva & Espino (2022)
The role of artists in supporting Ukrainian culture and population during the war. History of development and research of Ukrainian art	Babunych (2023) Lytvyn (2023)
Transformational impact of the war on social development	Mereniuk & Parshyn (2024) Mick (2023) Burakov & Pytlova (2023) Zelenska & Mykhalchuk (2023)

Figure 1. Main areas of the studying the Ukrainian arts.

Source: Authors' development

Hence, the analysis of the literature had shown that the war has significantly affected all aspects of Ukrainian art, from themes and stylistics to international representation and preservation of cultural heritage. However, this field continues to develop, and it is important to reflect a complex understanding of artistic processes in difficult times in terms of complexity. This is the task that this study will try to highlight.

Research design and methods

Research design

To achieve the research objective, it is proposed to use a qualitative approach (case study), which was used to study and systematize various scientific sources on the subject: scientific articles in professional journals and publications on Internet resources, in chapters of collective monographs, individual monographs by single authors, collections of scientific conferences and published abstracts. As a result, the proposed research was based on the principles of objectivity and impartiality.

The research is based on a qualitative approach, which is optimal for studying complex cultural, historical and social phenomena. This approach allows not only to focus on a deep understanding of the object of research, but also to take into account the multidimensional context in which Ukrainian art is located during the war.

Data collection

Work on the text of the proposed article began with a search for the necessary scientific information. For this purpose, we primarily reviewed publications from such scientific and metric databases as Scopus, Web of Science, PubMed, and Google Scholar. For a more detailed search, certain keywords were used: art, Ukraine, perspectives, artistic features, traditions, innovations. The search yielded 654 results. At the first stage of the research, all repetitions of scientific sources that arose as a result of publications on the Web under different titles were eliminated: the volume of literature decreased by 75 items as a result of such actions.

The second stage involved a thorough analysis of the abstracts of scholarly articles (or the tables of contents of monographs and chapters in collective monographs). As a result of the discrepancy between the purpose and objectives proposed in the article, 168 search results were removed. At the third stage, it was proposed to set a date range of 2018-2024, which would mean that the article should use current publications that would also provide a review of the scientific literature of previous chronological periods. As a result of these actions, the total number of results decreased by 303 items.

The next step was to apply additional exclusion criteria to the selected scientific literature. These markers were:

1. The study deals with the traditions and development of Ukrainian art at the present stage of scientific research.
2. The work deals with the role and significance of Russian aggression against Ukraine, its impact on cultural and artistic development and its prospects.
3. The study uses relevant scientific literature to establish the validity of the author's conclusions, identify prospects for further research, and outline possible markers of the artistic development of the Ukrainian artistic tradition in the future.

Taking into account Criteria 1, 2, and 3, 28 literature items were left for further analysis; at this stage, 9 works were used by the authors in their previous research on the topic and which exactly meet all the search criteria (see Table 1).

Table 1.
Data Collection and Selection Process

Data Processing Stage	Number of Results
Initial Results	654
Removal of Duplicates	-75
Removal of Irrelevant Studies	-168
Date Range Reduction	-303
Filtering by Criteria	
Criterion 1	-25
Criterion 2	-26
Criterion 3	-29
Number of Included Sources	28
Additional Sources	9
Total	37

Source: Authors' development.

A qualitative research method was chosen for data analysis. A qualitative approach was chosen because of its ability to take into account the context, explore unique cases (Cultural heritage of Ukraine and its artistic processes have unique features that require detailed individual analysis) and introduce interdisciplinary approaches. In this regard, discursive analysis played an important role, which was aimed at studying how the issue of artistic heritage is highlighted in scientific works and public discourse. All received works were placed in the Microsoft Excel system, which made it possible to carry out coding as well. In particular, the

obtained data from available sources were transferred to special tables and divided according to the following directions: author, year of publication, results. This table made it possible to summarize the main selected studies and form the general ideas of the authors about the role of art in the conditions of war.

At the next stage, the codes were grouped by categories that reflected the key aspects of the study: the state of Ukrainian art, the influence of war realities, and the preservation of cultural heritage. With the help of the obtained codes, the following categories were formed: trends in the development of art, the impact of war, scientific discoveries in the field of art. The indicated categories made it possible to generalize the received information.

Results

The ongoing war in Ukraine has influenced the transformational development of Ukrainian art and shaped new trends and directions that reflect experiences, aesthetics, emotions, and social changes in society against the backdrop of changes in collective memory and historical consciousness (Andrade, 2022). Additionally, the war gave Ukrainian art new themes and tonalities. Director George Genoux and playwright Natalia Vorozhbyt founded the Kyiv-based Theater of Displaced People on the basis of this new experience, which was linked to loss, displacement, and psychological damage from the conflict.

In addition, the Displaced Persons Theater used the stories of different people in order to highlight the broader problem of war through art and improvisation. It was presented population displacement as the biggest humanitarian crisis to hit Europe since World War II. The play told the story of the living conditions of refugees around the world. Moreover, Alevtina Kakhidze came up with the idea for *Calls from the Cemetery* in 2014. The audio work *Reading/Listening*, which emerged from her Facebook posts, was initially shown as part of the DonCult project in Kyiv. It was a sequence of phone calls with the mother of the artist, who stayed in her hometown of Zhdanivka throughout the fighting in eastern Ukraine and the ensuing occupation.

Split apart by the line of war, the two women helped one another and established a "feminine" domain within the framework of the masculine martial paradigm. She investigated the agony of people torn apart by conflict and of those living in areas outside the jurisdiction of the Ukrainian government in her 2014–2020 project about Klubnika Andriivna. This project explored the tragedy of people divided by war and of the residents of the territories beyond the Ukrainian government's control, who have been essentially deprived of their civil rights. As a result, the militarization of Ukrainian art has become noticeable. Contemporary artists have addressed topics related to the consequences of military operations, the heroism of Ukrainian soldiers (in particular, during the Russian aggression of 2014-2024), and the overall impact of war on various social processes.

In addition, depictions of ordinary Ukrainians, including women and children, who have faced various problems caused by the war, have also become popular. In addition, an ontological trend has become noticeable in contemporary Ukrainian art, not just of women experiencing this difficult situation, but of women fighting against it: images of women soldiers, women mothers who, despite everything, have the strength to protect their children in difficult times, etc. In general, militarized themes are central and important in various art forms, including painting, sculpture, literature, and music (Devterov et al., 2023).

Contemporary works by Ukrainian artists reflect both tragedy and suffering, as well as the strength of the spirit and the indomitable nature of the people. Another notable trend has been the emergence of a new genre in Ukrainian photography and cinema that documents the realities of war - visual documentary. Photographers and filmmakers are able to make powerful visual testimonies that document and reflect the basic horrors of war, the destruction of cities, and the lives of people on the front line. All these materials will serve as a reliable basis for the formation of collective historical memory in the future.

At the same time, art forms that express protest against aggression and solidarity with the victims of war have developed significantly. It can be street art (graffiti, installations) or digital projects that are distributed through social networks. Within this framework, artists realize their works to emphasize the importance of freedom, human rights and independence of Ukraine. In addition, it is worth noting that the war has had an impact on stimulating a deep rethinking of Ukrainian national identity in art (Boyko, 2023). Contemporary Ukrainian artists are actively turning to historical roots, traditions, and symbols. This is done in order to emphasize the uniqueness of Ukrainian culture and its resilience in the face of the threats of war.

However, the transformation of the history of Ukrainian art has also seen a shift in the centers of cultural life, which is extremely important for the formation of national identity. In particular, as a result of hostilities, many cultural institutions were forced to relocate or even suspend their activities. This, in turn, has led to the emergence of new cultural centers in regions less distant from the fighting, as well as to the emergence of initiatives aimed at supporting culture in times of crisis. Thus, new projects aimed at preserving the memory of those who died and the events of the war are now noticeable (Romanets, 2017). This is reflected in the creation of new memorial complexes and digital archives that preserve personal stories and testimonies, the history of Ukrainian self-determination against the backdrop of the Russian invasion.

However, it is also worth paying attention to the trend of wider internationalization of Ukrainian art. In particular, contemporary Ukrainian artists are increasingly entering the international arena and presenting their unique works abroad and participating in international exhibitions, festivals, or projects. The war, in turn, has also drawn the world's attention to Ukrainian culture, which contributes to the development of international dialogue (Levytska, 2024). The above changes indicate that the history of Ukrainian art not only adapts to the challenges of the times, but also actively influences the formation of public opinion and the maintenance of the national spirit in Ukraine. Figure 2 shows the main trends in the development of Ukrainian art history caused by the war.

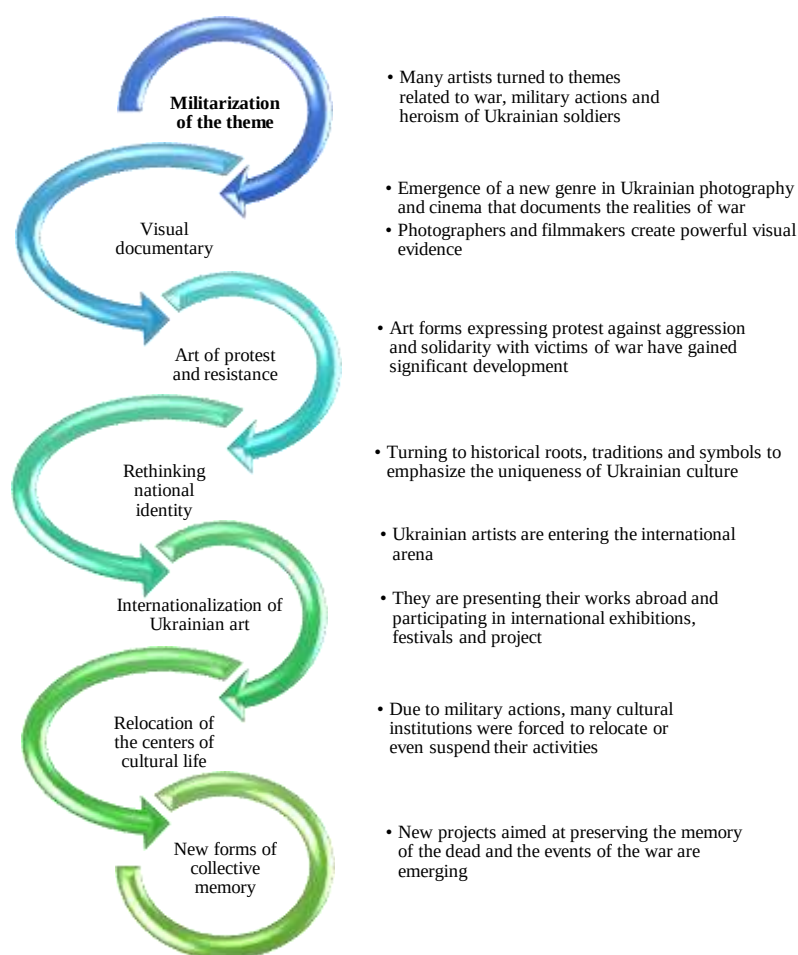


Figure 2. The main tendencies of the development of utilization of the history of Ukrainian art.
Source: Authors' development

The military factor also affected another art form. As during the First and Second World Wars, during the Cold War between the democratic West and the communist East, a significant role was played not only by fluid methods of communication, but also by those that could have a permanent effect on the consumer. First of all, we are talking about the effectiveness of posters, which, due to digitalization, have been actively evolving and turning into Internet memes. This well-known tool in communication allowed us to respond

quickly to certain public demands. During the military invasion of Ukraine by Russian troops, posters, banners, and memes proved to be an effective tool that was actively used offline and online.

Alongside this trend, visual images of a different kind began to be used in art, such as murals, where artists tried to draw attention to certain current events that are important for Ukrainian society (Leahy, 2023). For example, the Russian invasion of Ukraine inspired the artist Kawu to depict President Volodymyr Zelenskyy as the famous wizard Harry Potter, and the President of the Russian Federation as the evil wizard Lord Voldemort. The President of Ukraine has a scar on his forehead that resembles the Latin letter Z (the symbol of the Russian occupation forces in Ukraine). His opponent is depicted against the backdrop of the Ukrainian flag and fire, indicating his guilt in inciting war and desecrating Ukrainian lands.

Another example is the famous graffiti by the existential artist Banksy in Irpin, Borodyanka, Kyiv, etc. In Borodianka, he depicted a young boy judoka performing a takedown on an adult judoka, who looks very similar to the Russian president. Thus, visual static means of communication in the twenty-first century remain relevant, but the rapid development of Internet technologies allows for further development of prospects in the study of Ukrainian art. Among them is the influence of Ukrainian themes on the development of contemporary world art, as the interest in Ukraine, its past and national traditions makes the proposed vectors important for the dialectic of cultures.

Discussion

Against the background of the Russian invasion of Ukraine, the issue of cultural and artistic studies is relevant for the formation of certain forecasts and perspectives. The purpose of the proposed article was to investigate the current state of Ukrainian art, its scientific and phenomenological understanding, and to determine possible future vectors for scientific discoveries in this field. In accordance with the specified goal, it is proposed to determine the state of scientific research on the history of the study of Ukrainian art, changes in the trends of Ukrainian art under the influence of the war, to characterize the prospects for development and discoveries in the field of the history of Ukrainian art, taking into account the trends formed by the war.

Ethical and philosophical aspects of art arising in periods of social and political crises, as well as their role in the collective memory and historical consciousness of society, are investigated. The proposed article examines how the modern challenges of war encourage new approaches in the study and interpretation of Ukrainian art.

The proposed results indicate that modern artists have turned to topics related to the consequences of military actions, the heroism of Ukrainian soldiers and, in general, the impact of war on various social processes. In addition, the depiction of the life of the ordinary Ukrainian population, in particular, women and children who faced various problems caused by the war, was popularized. It has been demonstrated that in modern Ukrainian art, the ontological tendency of depicting not just women experiencing difficult situations, but women struggling with them has become noticeable. In general, militarized themes are central and important in various forms of art, but also in painting, sculpture, literature, and music. Such results generally confirm the conclusions of other scientists that the destructive nature of the war has an impact on transformations in the Ukrainian national and cultural identity (Ciubara, 2024; Manko, 2022).

At the same time, the conclusions of those researchers who noted the impact on fundamental changes in socio-cultural dynamics and the growth of national identity as a result of military operations were also supported (Kysliuk, 2023; Koshulko, 2023). This process has been noticeable since 2014, when Russian troops occupied Crimea and took a hybrid part in the wars in Eastern Ukraine (Ivanets & Krasnodemska, 2022; Medvedieva et al., 2023). If we take into account the events that began in February 2022, they united the Ukrainian people even more. Every event that took place in the modern Ukrainian physical and virtual dimension gained coverage in the online space, often acquiring artistic forms.

As a result of the conducted analysis, it was established that those forms of art that express protest against aggression and solidarity with the victims of war received a noticeable development. It can be both street art (graffiti, installations) and digital projects that are distributed through social networks. A notable phenomenon was the relocation of centers of cultural life. These results confirm the conclusions of other scientists, who indicated that creative migrations generally contribute to the emergence of new cultural

centers. This tendency, according to scientists, was generally characteristic of the environments of Central-Eastern Europe that were under communist influence at the time (Morozova & Pozharytska, 2021).

At the same time, the experience of Ukraine indicates noticeable trends in preserving the memory of those killed in war. This is expressed in the creation of new memorial complexes and digital archives that preserve personal stories and testimonies, the history of Ukrainian self-determination against the background of the Russian invasion. The researchers also emphasized the importance of the internationalization of Ukrainian art - the openness of it and its history to the world (Lytvynenko, 2023; Shpykuljak & Mazur, 2014). As a result, a certain cultural exchange may take place. As shown in the proposed study, foreign artists paid attention to the war in Ukraine, made it a top topic for foreign art circles. Thus, the war, in turn, also drew the attention of the world community to Ukrainian culture, which contributes to the development of international dialogue.

If the previous analysis of the literature indicated the existence of a debate on the digitization of cultural heritage. The results of this article demonstrated the importance of implementing digital initiatives for the preservation of cultural memory. In particular, in the conditions of war, it is also worth strengthening the digitization of valuable artifacts.

At the same time, it is proposed to take into account the impact of digitization of art as an important direction for further research. As a result of digitalization, previously known posters were actively transformed into Internet memes. Along with this direction, visual images of a different plan began to be used in art - murals, where artists tried to draw attention to certain current events that are important for Ukrainian society. Such thoughts are in unison with the views of scientists who consider these modern trends to be relevant, especially considering the high effect among the young generation who communicate via the Internet and prefer modern artistic trends over traditional ones (Leahy, 2023).

At the same time, it is difficult to agree with the opinions of researchers who combine the study of posters, memes, etc. with the study of propaganda (Olzacka, 2024). In fact, artistic response to current events, as correctly emphasized in some studies, does not belong to propaganda. To perceive art only through such a black and white picture is unproductive. New directions can become an important asset of the history of Ukrainian art in the future, as manifestations of the artistic reaction to Russian aggression in 2022. Accordingly, they are a promising direction for further research.

Separate methods with certain limitations were used to write the proposed article. First of all, we are talking about the use of English-language scientific literature, which was created, moreover, in a clearly defined period. On the one hand, it makes it possible to evaluate the most relevant research that has scientific novelty and has passed the review stage in influential journals. On the other hand, there is a possibility that individual studies written in non-English language and outside the specified study period have scientific value and will generally require a separate review in the future.

Conclusions

This study has made a significant contribution to the field of Ukrainian art history by examining the pressing challenges and opportunities that arise in the context of the military conflict. Analyzing the impact of the war on Ukraine's cultural heritage, this study not only highlights the vulnerability of art and artefacts in the face of violence, but also highlights their vital role in shaping national identity and collective memory.

A key contribution of this study is to identify priority areas for future research and conservation efforts. For instance, it was noted that Russian military aggression has also affected the permanent means of communication - posters and banners, which in the digital age have become Internet memes. Such a well-known communication tool has made it possible to respond quickly to certain public demands. Additional artistic directions of visualisation have also emerged, such as murals. Thus, visual static means of communication in the twenty-first century have not lost their relevance as a result of new digital technologies and the rapid development of the Internet.

Placing the preservation and study of Ukrainian art in the broader context of national sustainability, this work offered not only a scholarly contribution, but also a practical road map for policymakers, cultural institutions, and scholars. Hence, the paper emphasized the importance of protecting Ukraine's artistic

heritage as a means of asserting cultural sovereignty and promoting a sustainable national identity in the face of adversity.

Directions for further research

This study has not only practical value, but also opened new directions for further study of this problem.

An important direction for further studies is conducting a survey among profile artists about how the war affected their activities. This will make it possible to compare the data obtained from this review study with the empirical study. Also, in the future, individual experts from various related fields (architecture, history, sculpture, museology) should be involved in the research in order to impress their opinions on the impact of the war. This will make it possible to approach the topic in a broad way and to identify those problems that need to be raised in the conditions of war.

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Analysis of achievements and prospects for the use of innovative technologies in the study of the history of Ukraine

Аналіз досягнень та перспектив використання інноваційних технологій у вивченні історії України

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Abstract

The current trends in digitalisation of education have a significant impact on the study of the humanities, including history. The purpose of this article is to analyse the achievements in the use of innovative technologies in the study of Ukrainian history and to determine their impact on the quality of education. The realisation of this task is based on the use of the method of content analysis of scientific literature selected using the PRISMA methodology. The results of the study show that interactive technologies are quite effective in teaching the history of Ukraine. VR and AR are important tools that allow students to more effectively perceive complex historical material. The use of online platforms and social media contributes to the dissemination of historical knowledge, providing access to lectures by leading historians, interactive tasks, online conferences, etc. A number of problems have also been identified on the way to introducing innovative technologies in history teaching. First of all, it is the high cost of equipment and maintenance, the resistance of some teachers to innovations, etc. The conclusions note that the use of innovative information technologies in the study of the history of Ukraine significantly expands the possibilities of the educational process.

Keywords: historical research, digital technologies, educational innovations, virtual resources, interactive learning, history of Ukraine.

Introduction

Given the rapid development of digital tools, multimedia resources and interactive platforms, new opportunities for teachers are now available. This makes learning history more engaging and accessible to

Анотація

Сучасні тенденції діджиталізації освіти мають значний вплив на вивчення гуманітарних дисциплін, зокрема історії. Метою цієї статті є аналіз досягнень у використанні інноваційних технологій при вивченні історії України та визначення їх впливу на якість освіти. Реалізація цього завдання ґрунтується на використанні методу контент-аналізу наукової літератури, відібраної за допомогою методології PRISMA. Результати дослідження показують, що інтерактивні технології є досить ефективними у викладанні історії України. VR та AR є важливими інструментами, які дозволяють учням більш ефективно сприймати складний історичний матеріал. Використання онлайн-платформ та соціальних мереж сприяє поширенню історичних знань, надаючи доступ до лекцій провідних істориків, інтерактивних завдань, онлайн-конференцій тощо. На шляху впровадження інноваційних технологій у викладанні історії виявлено також низку проблем. Насамперед, це висока вартість обладнання та його обслуговування, опір деяких вчителів нововведенням тощо. У висновках зазначається, що використання інноваційних інформаційних технологій при вивченні історії України значно розширює можливості навчального процесу.

Ключові слова: історичні дослідження, цифрові технології, освітні інновації, віртуальні ресурси, інтерактивне навчання, історія України.

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students. Therefore, a thorough analysis of the prospects for using innovative technologies in the study of Ukrainian history is important for further study through the prism of digitalisation. An analysis of the achievements and prospects of using innovative technologies in the study of Ukrainian history is relevant, as it will help identify key barriers and point to new opportunities for their use to implement effective learning.

Specificity of the problem

Despite the significant potential of innovative technologies, their use in the study of Ukrainian history remains limited due to a number of problems. In particular, there is uneven access to modern tools and technologies, insufficient teacher qualifications, and limited content. All of these problems affect the quality of modern teaching and learning of special topics in Ukrainian history. Moreover, the teaching of history in educational institutions in many aspects depends on the combination of the skill of teachers and the possibilities of the educational environment. The modern educational environment is shaped by the use of innovative digital technologies that ensure accessibility and flexibility in the process of acquiring knowledge. In addition, the modern market of educational technologies offers a wide range of opportunities for improving the organisation of the educational process. In the field of history, the competent use of these tools and technologies makes it possible to bring to life certain historical events that are necessary for studying, to transport students to different eras and events. At the same time, they also make it possible to make the information more visual and thus more accessible, more understandable (Challenor & Ma, 2019). In addition, according to current research, interactive approaches promote critical thinking and creativity, as they allow for alternative versions of events and engage students in innovative active learning (Kaldygozova, 2024; Hamidi & Chavoshi, 2018). Thus, modern technologies open up new opportunities to support innovative development of education. Thus, in the scientific discourse, there is an ambiguous attitude towards the use of modern digital technologies for the study of history. For this reason, this issue needs to be studied in more detail and further strengths and weaknesses in the use of digital technologies in history education should be identified.

The aim of this study is to analyse the achievements in the use of innovative technologies in the study of Ukrainian history and determine their impact on the quality of education. The main research questions are as follows:

1. What are the main technologies for innovative teaching of Ukrainian history?
2. What opportunities does the use of information technology in the educational process offer?
3. What are the obstacles to the use of information technology in the study of Ukrainian history?

Therefore, the main objectives of the study are as follows: 1. Identification of the main technologies used in innovative teaching of Ukrainian history. 2. Analysing the main opportunities and strengths of digitalised history teaching. 3. Characterising the main problems of using digital resources and formulating potential recommendation solutions to address the identified challenges.

Literature Review

The impact of digitization on history teaching

Modern researchers have characterized the impact of digitalization on the development of modern education. The works of modern scientists have proved the importance of introducing innovative teaching approaches to the educational system (Raja & Nagasubramani, 2018). The study by Al-Ansi et al. (2023) characterized the role of augmented and virtual reality in education. The authors of the article emphasized that these technologies contribute to the interest and greater involvement of students. This is confirmed by the results of Asencio et al. (2019), who described the technical capabilities of virtual reality in the space of modern education.

Online platforms and interactive learning

In addition, Bernacki et al. (2020) characterized various mobile technologies used in education. The authors drew attention to their advantages and described their impact on the development of modern education. Bobro (2024) described the features of the introduction and use of artificial intelligence in education. The author claims that it is crucial while evaluating and testing pupils. The adoption of a person-centered

approach, which is desired in contemporary education, is also guaranteed by this technology. Bonfield et al. (2020) described the main transformational changes in education in connection with the introduction of the 4.0 system, which is designed to make the digitalization process more widespread. At the same time, the use of modern digital and information technologies influences on the process of formation of new opportunities for modernizing and optimizing the learning process (Pokharel et al., 2024; Kaldygozova, 2024; Raja & Nagasubramani, 2018).

Granić & Marangunić (2019) reviewed the main technologies used in modern innovative education. The studies by Falqueto et al. (2019) emphasized the importance of implementing approaches to the education system that develop practical skills in students. In particular, the authors emphasized the importance of stakeholder engagement. Kaldygozova (2024) described the role of using mobile technologies to optimize the learning process. Challenor, & Ma (2019) reviewed the possibilities of augmented reality in the history learning system. The authors drew attention to the fact that these technologies allow for historical tours and quests.

Moreover, modern researchers also emphasized the importance of introducing modern technologies in the study of history, the authors mainly identified the impact of 3D technologies on the study of history. Wright-Maley et al. (2018) described the main possibilities of digital simulation in the process of studying history. The authors paid special attention to the role of gamification in this process. Thus, these works form an important theoretical basis for the article. However, given the current trends, it is important to demonstrate the role of these technologies in the study of Ukrainian history.

Methodology

Data design

The realisation of the proposed purpose of the article requires the use of certain scientific methods. The study is based on a qualitative approach, and therefore it is based on proven scientific sources. Among them are scientific articles (published in scientific journals included in international scientific and scientific metric databases), certain methodological manuals, statistics, monographs, chapters in collective research projects, texts of speeches at conferences, and preprints of individual publications. Taking into account the different positions of scholars on the problematic issues of studying the history of Ukraine through the prism of interactive digital technologies allowed us to achieve the desired level of impartiality in the formation of the proposed results and conclusions.

Data selection

The work of collecting the necessary scientific literature required several stages. At the first stage, the work on the article required collecting the necessary information by searching for scientific sources. This search was carried out by analysing publications indexed in scientific and metric databases, in particular, Elsevier (Scopus), Web of Science, and Google Scholar. To update the search for the necessary information, a set of keywords was used: historical research, digital technologies, educational innovations, virtual resources, interactive learning, history of Ukraine. The search yielded 432 results. This list excluded those scholarly publications that were repeated, and excluded works written by Russian or Belarusian scholars (due to their possible bias in relation to Ukrainian history). As a result of this selection, the list of scientific literature was reduced by 161 items.

During the second stage, a thorough analysis of the abstracts of scholarly publications was carried out. This made it possible to remove those articles that did not contain information on the use of interactive technologies in the study of Ukrainian history (despite the coincidence of keywords). Thus, another 143 search results were eliminated on this basis. At the third stage, to take into account the relevance of the information provided, a range of dates for scientific research. First of all, the works created since 2018, i.e. within the last 6 years, should be taken into account. This approach allowed us to remove 36 papers from the list. This low number is explained by the fact that the research topic is quite new: the active use of digital technologies in education generally began as a result of the COVID-19 pandemic, and then it came to the understanding of new technologies in the field of historical education.

During the fourth stage, additional criteria were introduced to exclude those papers that did not contain important information about the purpose of the study. These criteria were the following:

1. The scientific publication deals with the use of digital technologies for teaching the history of Ukraine.
2. The scientific publication is devoted to the problems of using interactive technologies in education in general, including history teaching.
3. The topic of the scientific publication is related to historical research, digital technologies, educational innovations, virtual resources, interactive learning, and the history of Ukraine.

Taking into account these selection criteria, 30 scientific publications were left for further analysis. Another 3 articles were added by the authors, as they were the basis for previous studies, so they generally meet the proposed search criteria (see Table 1).

Table 1.
Data Collection and Selection Process

Data Processing Stage	Number of Publications
Total Results	432
Removal of Duplicates	-161
Removal of Irrelevant Studies	-143
Date Range Reduction	-36
Filtering by the Criteria	
Criterion 1	-15
Criterion 2	-16
Criterion 3	-14
Number of Included Sources	30
Additional Sources	3
Total	33

Source: Author's development

Data analysis

The scientific literature was processed using the method of content analysis of scientific literature. Content analysis is the most appropriate method to address the research questions in this article. In particular, it makes it possible to implement a systematic approach to the analysis of sources and to structure a large array of information related to the teaching of history. This method allowed us to reveal the views of scholars on the existing issues, to highlight the main opinions of researchers on the importance of digitalising history as a science and an academic discipline.

However, it is also worth pointing out the limitations of this methodological approach. Since the qualitative approach often relies on the researcher's interpretation of the data, bias or subjectivity may occur. This should be taken into account when interpreting these results.

Results and Discussion

The Russian-Ukrainian war proved the necessity of studying history and the importance of forming a strong national identity (Halukha, 2024). Studying the history of Ukraine allows us to reveal the rich cultural heritage and important stages of the struggle for independence, which in turn will influence the formation of civic consciousness and critical thinking among students. Within the modern educational paradigm, information technology in the process of learning and teaching history allows us to expand the scope of students' historical knowledge and resolve the issue of lack of interest or rejection of complex historical material (Brennan, 2018; Cowling et al., 2022).

At the same time, the use of modern information technologies helps to unlock the potential of students' scientific outlook, critical and creative thinking, and social consciousness. In particular, in the process of using these tools, students develop such important skills as digital literacy, digital communication and collaboration in online environments, which are components of information competence (Kulish et al., 2020). These skills are becoming increasingly important in the current labour market (Leshchenko et al., 2020). Within the modern educational paradigm, information technologies in the process of teaching history are becoming increasingly important and allow students to expand the scope of historical knowledge.

Among the main technologies that help teach the history of Ukraine are virtual and augmented reality. Their application is important when studying the problematic issues of the struggle for Ukrainian statehood, and especially in the conditions of the Russian-Ukrainian war since 2014. The use of VR is important for creating or showing virtual tours of historical sites, battles, or reconstructions of everyday life events in different eras. These tools allow students to immerse themselves in the past and 'see' certain historical events with their own eyes (Parong & Mayer, 2021). For example, these technologies are used to show reconstructions of the life of Rus-Ukraina, the Battle of Kruty, or the everyday life of Ukrainian cities in different eras. At the same time, the possibilities of augmented reality are also vast. These technologies allow us to overlay digital objects on the real world (Villena Taranilla et al., 2019). We are talking about interactive maps or museum exhibits that come to life with the help of smartphones or tablets. In addition, special QR codes placed on various educational materials have begun to play an important role in Ukraine. Such tools can provide additional information about historical events (see Figure 1).

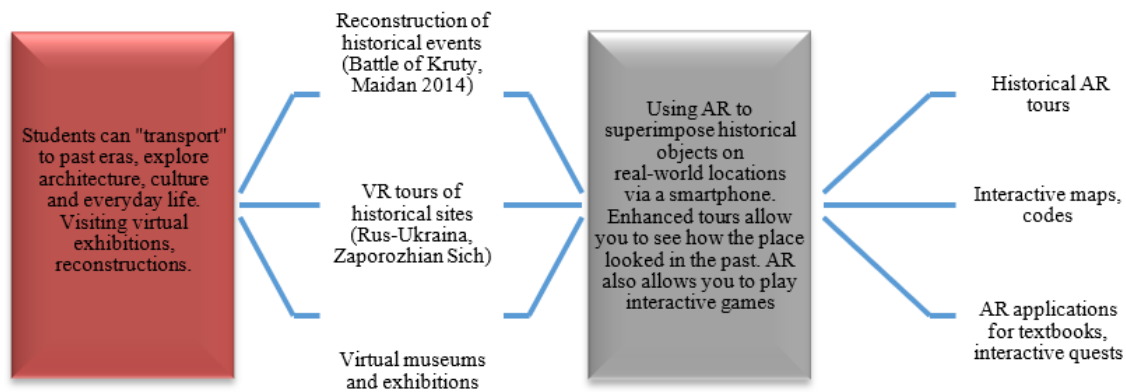


Figure 1. The role of VR and AR in the study of Ukrainian history.

Source: Author's development

Interactive multimedia platforms with supplementary learning materials are also important for learning about Ukraine's history. Interactive digital maps allow for real-time tracking of territorial changes, military campaigns, and population migration. Such tools help students to better understand the dynamics of certain complex historical processes. Interactive platforms in education can enable the creation of real-time mind-maps, charts, diagrams and illustrations, online conferencing, collaborative project activities, online tests and assessments. In particular, Quizlet has the ability to create quizzes and flashcards. The online tool Padlet allows users to create digital whiteboards with a collection of materials. For history teachers, Padlet is important for creating special interactive whiteboards where you can collect and organise historical sources (photos, pictures, videos and documents).

Gamification is an important innovative approach to teaching the history of Ukraine. Educational games based on specific topics in the history of Ukraine allow students to become participants in events and better understand the material. Often, such games can involve different strategies where you have to make decisions as a ruler (Michala et al., 2018). In addition, they can be in the form of quests, where you need to explore historical sites while solving problems.

Online platforms can also play an important role in innovative learning. In particular, Coursera, EdX, or local university educational platforms have various courses on the history of Ukraine. They may include lectures from leading historians and interactive assignments. Importantly, such platforms often feature joint discussions in online groups, which allows students to develop their communication skills (see Figure 2).

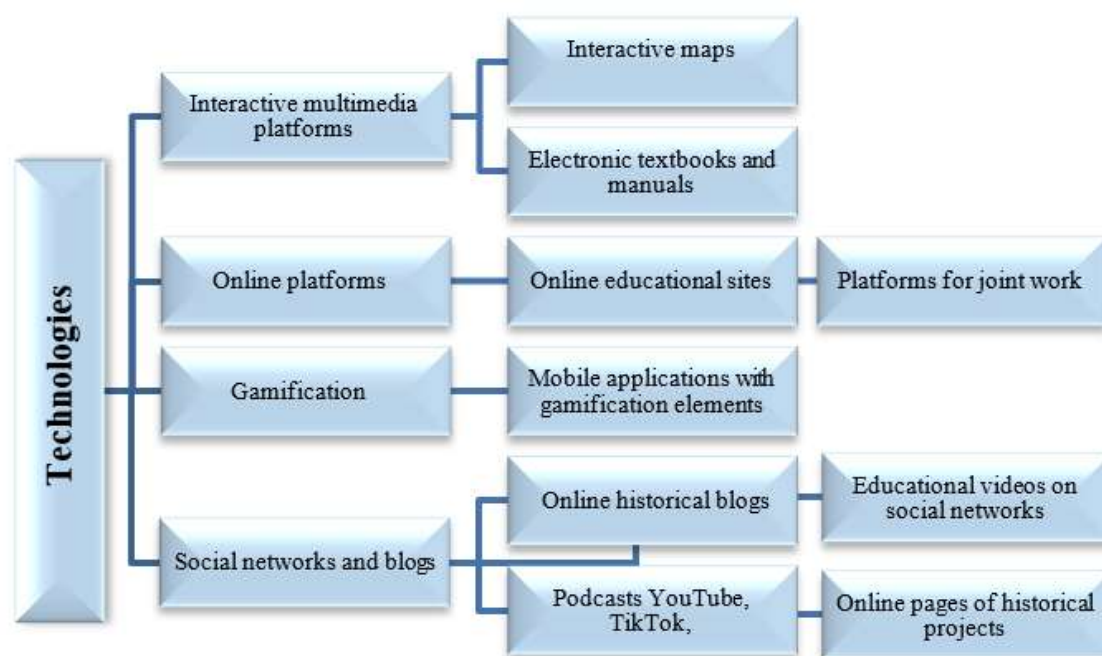


Figure 2. Technologies of interactive collaboration.

Source: Author's development

The role of social media and educational blogs is also worth noting from Figure 2. Educational videos and podcasts allow for a broader exploration of certain topics and can make the learning process more interesting and informative for learners. Networks such as YouTube, Instagram can be used to create special learning channels. In particular, YouTube channels such as 'WAS: Popular History', 'Local History', 'History without Myths', etc. They are important because they often contain short educational videos that explain historical events or biographies of famous people. In addition, modern educational blogs and social media pages have a general impact on the promotion of history among young people and provide information in an easy and accessible format (Näykki et al., 2019). Thus, these technologies contribute to making the study of Ukrainian history more interactive and accessible. Table 2 presents the main technologies and their capabilities in the system of teaching Ukrainian history.

Table 2.

Main interactive technologies and its possibilities in learning of the history of Ukraine

Technology	Possibilities
VR	Immersion in historical conditions and events Reconstruction of historical sites Allows you to see battles, life in cities and villages of different countries Provide access to virtual museums and exhibitions
AR	Provide access to interactive maps, multimedia tutorials Allow you to conduct AR tours Implement various quests
Gamification	They allow you to implement: interactive tasks Competing tasks Tasks with game elements
Online-platforms	Quick access to the right learning materials Access to lectures by leading historians Mobility of learning
Social networks	Promoting historical knowledge Attracting additional information from experts Presenting knowledge in an easy and accessible format

Source: Author's development

Thus, these technologies have various capabilities that contribute to making learning more interactive, more accessible and mobile. In addition, these technologies develop students' creative thinking and creativity. However, there are a number of problems that arise on the way to introducing innovative technologies in teaching the history of Ukraine. These difficulties are caused by various factors, but can have a real negative impact. In particular, the insufficient level of technical training of teachers may become an important challenge. In particular, tools such as virtual or augmented reality require a high level of digitalisation knowledge, which not all teachers have. It is also worth paying attention to the limited access to resources. Educational institutions may not have the necessary technical equipment, access to quality internet or specialised technical tools (Ratheeswari, 2018; Shpykuljak & Mazur, 2014).

Furthermore, these instruments need excellent technical assistance, which can be costly to maintain. Cybersecurity compliance is another crucial problem. Specifically, there may be dangers associated with using different online platforms and applications, including those pertaining to the security of the data of participants in the learning process. These issues are widespread and might apply to all educational establishments. To overcome obstacles, though, a methodical approach to integrating cutting-edge technologies into Ukrainian history classes should be taken, with special focus on preparing educators to adopt and utilize these technologies.

Modern technological solutions have a significant impact on the teaching of Ukrainian history, which makes it necessary to reconsider certain paradigms of perception of this subject. The purpose of this article is to analyse the achievements in the use of innovative technologies in the study of Ukrainian history and to determine their impact on the quality of education. The realisation of this goal required consideration of several educational issues, first of all, the main technologies for innovative teaching of the history of Ukraine, determination of the possibility of using information technologies in the educational process, consideration of obstacles to the use of information technologies for the study of the history of Ukraine. This issue is also being addressed due to the Russian aggression against Ukraine, as the destructive actions of Russian propaganda require a critical response and knowledge of basic facts, including those related to the history of Ukraine.

With regard to the main research problem, namely the determination of the main achievements and prospects for the use of innovative technologies in the study of the history of Ukraine, this study demonstrated the importance of using modern mobile technologies for teaching history. Moreover, according to the results, the using information technology encourages students to become more familiar with the course material, fosters the growth of critical thinking skills, and makes teaching Ukrainian history more approachable. Such results confirm the findings of other researchers who have empirically established that teaching the history requires the use of innovative technologies as much as any other discipline. This reveals the heuristic potential of history as a science, which contributes to the general interest of students. Accordingly, motivation forms an interest in deeper knowledge, and in the long run, a desire to master the subject and study the history of Ukraine on their own.

The proposed results indicate the importance of virtual and augmented reality as elements of interactivity in the study of Ukrainian history. In particular, we are talking about interactive maps or museum exhibits that come to life with the help of smartphones or tablets. Special QR codes have begun to play an important role. Gamification is an important innovative approach to learning the history of Ukraine. Online platforms are relevant for innovative learning (Coursera, EdX, local university educational platforms have various courses on the history of Ukraine, etc.) This confirms scholars' opinions that digital tools in teaching the history of Ukraine are diverse and allow for different ways of covering educational issues (Del Campo, 2021; Yildirim et al., 2018). For example, the work of Del Campo (2021) also confirmed the effectiveness of virtual reality, especially when studying the history of the Middle Ages and antiquity. At the same time, the results correlate with a study by Challenor & Ma (2019), which demonstrated the importance of augmented reality when learning history.

The results also emphasize the importance of gamification, a trend that is particularly popular in modern scientific discourse. Many modern scientists have confirmed that game technologies or the use of platforms with game elements make learning more interesting and cognitive, which in general optimizes the process of acquiring knowledge about history (Gautschi, 2018; Xipnitou et al., 2019). Modern scholars have also drawn attention to the effectiveness of using such technologies, given the empirical evidence of improved learning with the use of digital elements (Petousi et al., 2022). Given such assessments, it is important to emphasise the importance of further using the interactive capabilities of modern learning tools.

The proposed results show that the use of innovative technologies in the study of Ukrainian history has its drawbacks. In particular, these difficulties are caused by various factors, but can have a real negative impact. Still relevant challenges include the lack of appropriate technical training for history teachers, who may not have all the necessary skills, and restrictions on access to relevant online resources due to lack of funding or other administrative problems. Given the cost of educational technologies, innovations in this area require investment - historical science is no different from other fields of knowledge in this regard. It is pointed out that the use of innovative technologies may face resistance from teachers who are guided by traditional teaching methods.

At the same time, scientists also emphasise the importance of competent and timely adaptation of curricula, which should take into account both modern theoretical achievements and the capabilities of digital systems (Criollo et al., 2021; Lutsiak et al., 2020). Updating educational content in such circumstances also becomes an important element of learning that requires appropriate attention. On the other hand, other researchers consider the use of innovative technologies in modern education quite reliable, since visualization and digital resources can lead to increased criticality and attention (Dzhurynskyi et al., 2023; Marusynets et al., 2022). In fact, it is about forming a simplified perception of Ukraine's historical past through the active use of visual or interactive elements. A good 'picture' under such conditions can shift the emphasis from analytical comprehension of the material to its primitive assimilation. The proposed remarks, although they require additional empirical confirmation, are quite fair, since practical work with the use of innovative technologies in history education confirms the difficulties proposed by researchers.

Obviously, overcoming these problems in teaching Ukrainian history will require systemic solutions, including the development of a strategy for their further integration. On the other hand, it is difficult to agree with the conclusions of researchers who believe that innovative technologies (primarily user-generated) can lead to the dissemination of distorted information (Núñez-Canal et al., 2022). As far as it was possible to establish, the educational content is at least developed by the teachers of the discipline, and therefore the possibility of disseminating inaccurate information does not exceed the statistical error and is not possible on a threatening scale.

The proposed research methodology has some limitations. First of all, it involves the selection of a sample of scientific sources, which includes relevant English-language publications of recent years. On the one hand, this approach meets the requirements of the times, since verified English-language publications are a kind of summary of long-term research published in professional peer-reviewed journals. However, important thoughts on the interactivity of teaching history written in languages other than English may have been left out of the research focus (given the general focus of the proposed study, which is on studies written in Ukrainian). This problem does not affect the overall level of the study, but forms a new topic for further research related to a deeper study of national experiences of using interactive technologies in teaching history in general and the history of Ukraine in particular.

Conclusions

Thus, various information technologies should be used in the process of studying the history of Ukraine. They provide access to educational material, make the learning process more interactive and interesting for students. The use of VR and AR allows students to immerse themselves in the past by studying historical events and places in virtual reality. This contributes to a better understanding of complex historical materials and stimulates the development of creative thinking. Online platforms and social media are important tools for disseminating historical knowledge, as they provide access to lectures by leading historians, interactive assignments, and collaborative discussions. They promote the development of digital literacy, communication and collaboration skills in online environments.

However, the findings also identified a number of challenges to their implementation, including the fact that these technologies can be expensive to support and maintain. In addition, not all teachers are sufficiently trained to use them. However, despite these difficulties, within the modern educational paradigm, the use of innovative information technologies in the study of history significantly expands the possibilities of the learning process, making it more interactive, accessible and engaging.

Despite the theoretical value of this research, there are certain issues that will need to be addressed in future works. In particular, it is worth conducting an empirical examination of the features of the use of the identified technologies for the study of history. Such an empirical study will make it possible to characterize

not only the main technologies, but also to identify the most effective ones. Accordingly, the research questions will be as follows: 1. What are the necessary conditions for using modern mobile applications for teaching history? 2. Which technology is the most effective for teaching history?

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Legal regulation of operational-search activities: comparative analysis

Əməliyyat-axtarış fəaliyyətinin hüquqi tənzimlənməsi: müqayisəli təhlil

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Abstract

The purpose of the article is to study the legal regulation of detective and investigative activities through the prism of the comparative aspect. To achieve this goal, the author used a number of scientific methods, in particular, the content analysis of professional literature made it possible to determine the positions of scholars on the problems existing in the legal regulation of operational and investigative activities. The results of the study show that in the former Soviet countries, until 1991, the problems of organisation of operational and investigative activities were not demonstrated to the public. Only with the beginning of democratisation of society did the regulation of detective and investigative activities become more public, and the relevant clearer legislative norms were established. It is important that the legal acts regulated the process of operational and investigative activities in accordance with the observance of citizens' rights. It is established that in world practice, the results of operational and investigative activities are introduced in accordance with a court decision. The author concludes that similar systems of interaction are used in many European countries which pay great attention to establishing cooperation between law enforcement agencies.

Keywords: operational-search activity, constitution, regulation, law enforcement agencies.

Annotasiya

Məqalənin məqsədi əməliyyat-axtarış fəaliyyətinin hüquqi tənzimlənməsini müqayisəli təhlil prizmasından öyrənməkdir. Bu məqsədə çatmaq üçün müəllif bir sıra elmi metodlardan istifadə etmişdir. Xüsusilə peşəkar ədəbiyyatın məzmununun təhlili əməliyyat-axtarış fəaliyyətinin hüquqi tənzimlənməsində mövcud olan problemlərə dair alimlərin mövqelərini müəyyən etməyə imkan vermişdir. Araşdırmanın nəticələri göstərir ki, keçmiş sovet ölkələrində 1991-ci ilə qədər əməliyyat-axtarış fəaliyyətinin təşkili problemləri ictimaiyyətə nümayiş etdirilmirdi.

Yalnız cəmiyyətin demokratikləşməsinin başlanması ilə əməliyyat-axtarış fəaliyyətinin tənzimlənməsi daha ictimai xarakter aldı, müvafiq qanunvericilik normaları təsbit olundu.

Qanunvericilik aktlarının əməliyyat-axtarış fəaliyyətini vətəndaşların hüquqlarına riayət olunmasına uyğun olaraq tənzimləməsi çox vacibdir. Müəyyən edilmişdir ki, əksər dünya ölkələrinin təcrübəsində əməliyyat-axtarış fəaliyyətinin nəticələri məhkəmənin qərarına əsasən cinayət prosesinə daxil edilir. Müəllif belə qənaətə gəlir ki, hüquq-mühafizə orqanları arasında əməkdaşlığın qurulmasına böyük diqqət yetirən bir çox Avropa ölkələrində oxşar qarşılıqlı fəaliyyət sistemlərindən istifadə olunur.

Açar sözlər: əməliyyat-axtarış fəaliyyəti, konstitusiya, tənzimləmə, hüquq-mühafizə orqanları.

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Introduction

Operational-search activity plays an important role in modern society, as it provides individuals and organizations with services in the field of security, investigation and information gathering. Given the current globalization conditions and the growing impact of cybercrime, this area is becoming increasingly important. This is especially noticeable in countries with high levels of economic and social interaction. At the same time, operational-search activity is also associated with risks of abuse, violation of human rights and non-compliance with ethical standards. This makes legal regulation of this area a necessary condition for ensuring its legitimacy and effectiveness.

A specific problem

Due to the increase in the number and types of potential offenses, the modern conduct of operational and investigative activities requires transformations, which should also include clear legislative restrictions. The point is that the sensitive area of investigators' work should not contradict the freedoms and rights of citizens, since their guilt is not proven, and interference with their privacy is an undesirable act that undermines confidence in the law enforcement system in general and in the state mechanisms for performing government functions (Shevchuk et al., 2022).

Despite the importance of operational-search work, approaches to its legal regulation differ significantly in different countries. In some states, it has well-defined frameworks, including licensing, government oversight, and codes of ethics. In other cases, the legal framework is fragmentary or non-existent. This fact creates space for legal gaps and violations. This situation raises questions about the effectiveness of existing regulatory models and the possibilities of their adaptation. Moreover, a clear delineation between criminal proceedings is problematic, which in practice prohibits procedural or operational internal affairs agencies from interfering with each other's professional activities. Legislation also regulates the forms of interaction between operational and procedural bodies. The issue of the forms of introduction of the results of operational and investigative activities into criminal proceedings is also debated at the legislative level. Given this, the issue is quite promising for research (Asgarova, 2022).

The purpose of the article is to analyse the legal regulation of operational and investigative activities through the prism of the comparative aspect. This goal is achieved by reviewing the current professional literature on this issue and studying the leading practices of operational and investigative activities. The main objectives of the study are as follows:

1. To conduct a comparative analysis of the legal regulation of operational-search activity in different countries, in particular, individual states of the post-Soviet space, the EU and the USA.
2. To identify the strengths and weaknesses of various approaches to the regulation of operational-search activities.
3. To propose recommendations for the purpose of improving the legal basis of operational-search activity.

Literature review

Conceptual foundations of investigative activities

Modern scientists have described in detail various aspects of law enforcement, security, operational measures against the background of legal analysis. In particular, S. Albul (2019) described the main intelligence functions of operational and search activities. This author characterized various aspects of the conceptualization and proceduralization of investigative activities. He also described the process of intelligence gathering and law enforcement activities. The conceptual principles of national security are described in the study by M. Chekhovska and others (2021). Moreover, the study by M. Chekhovska et al. (2021) addressed the broader conceptual principles of national security and linked them to investigative activities as part of a cohesive framework for safeguarding state interests.

Comparative perspectives on legal regulation

The comparative research of legal frameworks for investigative and operational measures is a growing area of interest. Daugirdas (2020) provided detailed information on operational measures in modern

international organizations. The author described various legal frameworks, implementation challenges and the impact of these measures on the sphere of management. E. Goodell Ugalde (2024) examined the issue of political invisibility in the modern world with a focus on the analysis of certain political and social aspects. Hajiyeva and Aismailov (2018) characterized the state of consulting services in Azerbaijan. Hurd (2024) described the main laws related to the operational activities of international organizations. The author also described the impact of these generally accepted norms on national legislation. Hurd (2024) builded on this by examining the influence of international norms on national legislation, with particular attention to how these norms regulate operational activities across jurisdictions. N. Khairova, D. Uzlov, S. Petrasova (2014) determined the features of the implementation of the method of identification and determination of the comparator for dynamic operative and investigative activity. On the other hand, V. Lysenko (2023) defined the problem of using the data obtained during operative-investigative activities for the purpose of gathering evidence.

Technological integration in modern law

Separately, the authors also described the technical aspects of using digital and computer technologies in modern systems in law enforcement agencies. At the same time, Y. Khyzhniak et al., (2021) described a model of operative search for criminals by the criminal police. It is especially valuable that the author described some important methods of data analysis for the purpose of preventing various crimes. T. Kravtsova and O. Yarmysh (2019) characterized the main principles of regulating the work of the bodies providing operational and investigative activities with the aim of ensuring national security.

Thus, modern literature examines various aspects that may be useful for understanding the specifics of the regulation of investigative activities through the prism of modern challenges in the fields of law enforcement and security. However, debates regarding certain practical and ethical issues are noticeable in the scientific literature. The debatable question of the existence of a balance between security and rights becomes noticeable. Although operational measures are important for security purposes, they often raise ethical and legal issues. Some authors point to the existence of problems regarding privacy and human rights. Others do not emphasize this. Also notable is the following debate in the scientific community: standardization versus flexibility. Modern authors offer separate mechanisms of standardization. However, others believe that their adaptation to specific national conditions remains difficult. Summarizing findings from comparative studies, national frameworks and technological advances, the review identifies gaps and potential areas for future research, particularly in harmonizing international norms with local practices and addressing ethical considerations in operational interventions. This task will solve this research and problematize effective operational-search strategies.

Methodology

First of all, it was collected certain regulatory documents that regulated the conduct of operational and investigative activities. In particular, we are talking about the relevant legal framework of European countries, the United States, and post-Soviet countries (Azerbaijan, Kazakhstan, and Ukraine). The search for relevant scientific literature was then launched. The key words for the search were the following definitions: operational and investigative activity, constitution, law, regulation, law enforcement agencies. The criteria for including scientific papers in the review were based on the following positions:

1. The scientific work reveals the essence of operational and investigative activities and its reception through the prism of international comparison.
2. The study describes various aspects of the use of operational and investigative activities.
3. The article describes the legislative aspects of the regulation of operational and investigative activities.
4. The evolution of the legislation of this concept is described.
5. The study has a significant scientific novelty, is modern and relevant in terms of taking into account changes to legislative acts.

Based on these criteria, 27 materials were selected. The material included laws.

Qualitative data analysis included content analysis of scientific literature and legislative framework. Content analysis is carried out systematically and step by step. the text is now pre-processed. This involved the segmentation of selected texts into blocks: articles, laws, book chapters. This was done for additional targeted analysis. After that, thematic coding was carried out. This involved developing a coding framework

based on previously identified categories. These categories related to the following aspects: country, sphere of regulation, methods of detective activity). After actually using open coding to discover new topics that weren't initially considered. These topics covered areas such as technology use, innovation and ethical issues, which ensured adaptation to new ideas. A comparative cross-jurisdictional analysis was also used. To determine the differences in the regulation of operational-search activities, a comparison method was used, which also allowed comparing the results with the works of other authoritative scientists.

Results

To permanently protect the rights of citizens from encroachments and violations, to identify and stop criminal acts and abuses, and to apply established sanctions to offenders and criminals, the state mechanism has created separate special bodies whose main mission is to ensure the law enforcement function. In order to solve problems with protection and development of interests of citizens and state bodies, a viable system of law enforcement agencies is needed, which should ensure both personal security of citizens and national security, function and evolve together with other state structures, carrying out law enforcement functions. The comprehensive nature of the general methods of guaranteeing the national security of the state, the difference in the means, forms and organisational instruments for implementing such measures stimulate the specific role of each instance of public administration to guarantee the interests of national security. In practice, this means that law enforcement agencies and public administration bodies with special competences carry out many tasks in the field of security (Eichensehr & Hwang, 2023). However, their activities are based on certain principles: the functioning of such administrative bodies is aimed primarily at ensuring the protection of key objects (we are talking about guaranteeing and protecting the freedom and rights of citizens, protecting material and spiritual values important for society, ensuring compliance with laws and the constitutional order, defending sovereignty and protecting the territorial unity of the country. The complex of measures implemented by public administration bodies in the field of national security includes special attention to the work of internal affairs bodies, whose activities, according to the law, are quite complex and extensive (Sanetra-Półgrabi, 2022). In fact, it is the internal affairs bodies that protect legislative norms and implement them in practice, which primarily involve: ensuring personal security, protecting civil rights and freedoms, ensuring and supporting the realisation of legitimate interests of citizens; establishing and maintaining order in public places; preventing offences, preventing criminal acts; ensuring public safety; countering all types of criminal encroachments on all forms of property of citizens; recording, detecting and solving crimes, searching for persons who have committed crimes.

In order to perform these functions directly, internal affairs agencies have a system of legal rights and administrative duties. The work of internal affairs agencies is carried out on the basis of practical application of legal acts – usually starting with the norms enshrined in constitutions and international agreements and ending with departmental acts of ministries, service instructions, etc. Taking into account the complex system of professional activities of law enforcement agencies during operational and investigative actions, the researchers conclude that the basis of the operational and investigative function is the ability to protect society from illegal encroachments, to detect, prevent and disclose facts of illegal activities using established methods, to conduct investigations and effectively present evidence of the guilt or innocence of suspects (Nabavi-Noori, 2021; Lavrov et al., 2022). All such functions are inextricably linked and create a complex set of activities of internal affairs agencies, which is regulated by relevant regulations and requires clear implementation in practice.

In Soviet times, the legal norms of operational and investigative activities were regulated primarily by closed departmental regulations and documents for official use. It was only after 1991 that a number of countries of the former USSR defined the term operational and investigative activity at the legislative level, defined the grounds for its conduct, defined tasks, guarantees of ensuring the rights of individuals, and established a clear list of rights of law enforcement officers in the course of operational and investigative activities. As a result of the marked democratisation of social processes, the nature and specifics of these actions have changed. Secrecy and secrecy have been replaced by more open procedures and their detailed description approved in laws.

In February 1992, the Law of Ukraine “On Operational and Investigative Activities” was adopted, which officially defined the concept of operational and investigative actions, described the basis for operational and investigative activities and related measures, set out the tasks, guarantees of protection of individual rights and freedoms, and provided a list of the use of the capabilities of the relevant law enforcement agencies authorised to carry out operational and investigative activities (Law of Ukraine No. 2135-XII,

1992). The Criminal Code of the Republic of Kazakhstan was adopted in July 2014. This law was the first legal act of Kazakhstan to regulate many aspects of specific operational and investigative activities, which had previously been conducted primarily in secret, in the open press (Criminal Code No. 226-V, 2014).

This fact is in line with the constitutional principles of building legal and democratic relations within the state. The law defines operational and investigative activities, exhaustively lists the administrative bodies authorised to carry them out, sets out the fundamental rights of citizens and investigators, and defines the implementation of legal and social protection measures, etc. The proposed law states that operational and investigative activities constitute a scientifically defined system of both public and non-public operational and investigative and organisational and managerial work.

Defining the importance of the relevant vector of work, the Law emphasises that the work of the relevant services is regulated by the legislation of the Republic of Kazakhstan, including the Constitution of the Republic of Kazakhstan. The definitions emphasise that the established reasonable limits of public and non-public actions of an operational and investigative nature are limited to the range of relevant regulatory documents and do not contradict the rights and freedoms of citizens. Similarly, the relevant law of the Republic of Azerbaijan of 1999 stipulates that operational and investigative activities are the performance by the relevant state authorities of public and non-public actions provided for in this law. Considering the legislative framework of operational and investigative activities in different countries, the researchers conclude that the main legal act regulating the guarantees of legality of actions related to operational and investigative activities is the Constitution, which further provides the basis for the adoption of subsequent regulatory legislative acts (Muzychuk et al., 2023).

In particular, in the United States, certain Amendments to the Bill of Rights set out a clear established procedure for organising searches and seizures of persons or their property. It is about ensuring that the right of people to protect their lives, homes, securities and other movable and immovable property from unreasonable searches and seizures is mandatory and should not be subject to harassment. Accordingly, search and seizure warrants will be issued on the basis of a decision by judges, who will control the sufficiency of the grounds. Such warrants, drawn up in accordance with the existing formulas, include sections requiring detailed descriptions of the place of search and the grounds for arresting persons or their property. Separate provisions regulate the rules of prosecution, trial and sentencing.

In particular, private property may not be seized without justification, nor may it be confiscated for public use without appropriate compensation. Thus, the fundamental law in America stipulates that no citizen shall be oppressed for being prosecuted for a felony or any other crime except by a jury verdict (Madiev et al., 2020). The Constitution also guarantees that no US citizen shall be compelled to testify against himself or herself in a criminal investigation. Similarly, it is impossible to deprive a person of property without a legitimate court decision (the same applies to the restriction of human rights).

Therefore, according to researchers, the US Constitution establishes only the main human rights, while the details are regulated by separate laws, regulations of departmental and interdepartmental institutions. Given the fact that there is a large number of law enforcement agencies in the United States, specific regulations have been introduced to establish cooperation between them, which guarantee compliance with the law in the course of operational and investigative activities (National archives, 1789). In particular, the FBI's powers are set out in several regulations that delineate the competence of federal investigators from that of local law enforcement. Similarly, the Instruction delineates the powers of the Central Bureau of Investigation, which is primarily engaged in investigative activities related to national security, countering foreign intelligence, etc. An important feature of the US system of operational and investigative activities is that the US law provides for confidential cooperation with citizens.

In some cases, the performance of criminal police officers may be assessed according to the quality of their informants. At the same time, such activities have strict legal restrictions and are defined at the legislative level. In particular, the FBI's job description regulates the specifics of contacts with informants, requiring that the following conditions be taken into account: the extent to which the informant's work may contravene constitutional guarantees of citizens' rights and whether it compromises the course of the investigation or subsequent evidentiary actions in court. It also regulates how reliable the informant's specific testimony is in terms of his or her knowledge and whether the FBI has the ability to directly influence him or her (Mikayilov, 2023). The selection of informants in the United States takes into account

not only the importance of the testimony obtained, but also various features of the informant's character and ability to penetrate the relevant criminal environment.

In addition, investigative activities may be carried out in accordance with the legislatively established informant privilege in a number of states: the informant may not appear in court on his own, and the testimony emanating from him is presented in court by an operative. He is interrogated as a witness and has the right not to disclose the source of his testimony. This rule is a significant exception to the legislative practice that the use of derivative evidence is inadmissible. An important source of law supporting operational and investigative activities is the decision of the US Federal Court. In particular, its rulings determine the admissibility of obtaining hearsay evidence. This means that it is possible to obtain hearsay evidence from persons who cooperate with the investigation, even from other people's words. A similar practice is also used in the Federal Republic of Germany.

The same situation exists in Azerbaijan (when it comes to establishing cooperation with informants. The Azerbaijani law requires working with persons who are willing to assist in operational-search activities and preserving their confidentiality. It is also possible to create entire fictitious units, enterprises or organisations in the form of legal entities and use them to provide anonymity to persons willing to cooperate with the investigation (Niyazov, 2022). Other post-Soviet republics also have such provisions. For example, in Ukraine, it is also allowed to use information from public and private, full-time and part-time employees, to cooperate with them confidentially, and to receive information from legal entities or individuals, free of charge or for a fee, about illegal actions that have been committed or are being prepared. Therefore, the practice of using informants in operational and investigative activities is becoming widespread.

In most European countries, the following actions are enshrined in the course of operational-search activities: organisation of internal surveillance, control over correspondence and other communications, wiretapping, monitoring of financial data, and the possibility of imitating a bribe or even giving a bribe (Makili-Aliyev, 2021). All of these actions are carried out in accordance with a court decision and are implemented before the next investigation as a result of such a court ruling.

However, researchers have repeatedly identified incidents in the use of this practice. In particular, the results of operational and investigative activities may become admissible evidence immediately from the beginning of investigative or other investigative actions during the investigation of a criminal case, and only later they may be submitted to the court, which will determine their place and importance in the case. In practice, it is difficult to perform the necessary procedural actions, and investigative bodies do not fully comply with them. Therefore, when the evidence obtained is brought to court, the court may be able to disregard it in the course of the criminal case, thus exonerating the accused from liability.

Discussion

The results of the study indicate that the implementation of operational and investigative activities requires more reliable legislative support, which is implemented in a number of regulations. A comparative analysis of existing experiences in Europe and the USA has shown that researchers of the peculiarities of the organisation of operational and investigative work often point to its exclusively or mainly covert nature, and, accordingly, remove from this process certain parts of public actions, which are primarily performed by employees of operational units to solve crimes. Other scholars hold the opposite view, considering the open activities of law enforcement officers to be an integral part of operational and investigative actions (Daugirdas, 2020). At the same time, they point to the importance of formalising the relevant actions at the regulatory level, which may even allow for direct coercion and even the inclusion of operational and combat activities (Daugirdas, 2020).

Undoubtedly, in any science that studies a particular branch of law, there is still a debate about the subject matter of legal regulation, but the differences in approaches to its definition are not so radical; there is a certain core for regulating social relations, which is the subject matter of regulation, on which most researchers in the field of science have reached a consensus.

In the case of the implementation of operational and investigative actions, one can see in the above examples diametrically opposite approaches, in which the scope of social relations subject to regulation differs significantly. Moreover, these contradictions exist not only in the views of scholars, but also in the current operational and investigative legislation. For example, it is often stated that it is impossible to

actually detain and personally search individuals, which makes it impossible to implement the available operational and investigative data. At the same time, legal scholarship has developed diametrically opposed approaches to the legal regulation of the procedure for conducting operational and investigative activities (Harfield & Harfield, 2018).

According to one of them, there is a need to abandon the establishment of an exhaustive list of measures, to allow other measures that are not reflected in the laws to be carried out by regulation, limiting only the limits of their implementation by prohibitive norms (Niyazov & Niyazova, 2021). Another approach is to regulate in detail the scope and procedure for conducting operational and investigative activities and exercising other rights of operational and investigative agencies (Mirzazada, 2014).

At the same time, the results of the study confirm the fact that the regulation of operational and investigative activities is rather noticeable evidence of the democratisation of legislation which began in Eastern Europe at the end of the twentieth century. The results also confirm the views of scholars that the foundations of operational and investigative activities are laid down in the constitutions of states (fundamental laws) and are further regulated by legislative norms (Nazarenko et al., 2023).

The studies identified both common features and differences in the organization of search operations. First of all, it was noted that all measures. Which the police or other law enforcement agencies have the right to carry out, regulated by the relevant laws, take into account the principles of observance of human rights, do not contradict them. Conducting operational measures requires a court sanction. Obtaining such permission minimizes the risk of abuse by operational-search bodies, protects the rights of individuals to privacy, inviolability of housing and protection of personal information. Changes to the relevant legislative framework are made taking into account the opinion of special committees that control the work of law enforcement agencies. At the same time, it is also worth agreeing with the researchers' opinion that there are significant differences in the European systems of law enforcement and the organization of investigative activities. We are talking, in particular, about the detailing of laws (Asgarova, 2022). For example, in Germany and Great Britain, the legislative framework that regulates the conduct of investigative activities is much better detailed than in the countries of Central and Eastern Europe, the former post-Soviet states. The issue of transparency in decision-making, accountability, and the organization of the investigative process is also being updated (Madiiev et al., 2020). Therefore, the legal regulation of operational-search activities under such circumstances is aimed at finding a certain balance between the effective actions of law enforcement officers and the observance of human rights. Undoubtedly, Western European legal mechanisms have a longer tradition, which determines their deep detailing. Such conclusions should be taken into account during subsequent works on this topic.

The proposed study has certain limitations, which are primarily related to the sample of English-language literature. An appropriate search for relevant research in national languages will allow to improve the data obtained, to highlight the conduct of operational and investigative activities from other perspectives, and to add additional data to the interpretation and analysis of the problems associated with this process.

Conclusions

A comparative analysis of the legal regulation of operational and investigative activities has shown that the approach to this issue is quite heterogeneous. In particular, in the post-Soviet countries, this issue entered the public sphere after 1991, when many of the old instruments of the totalitarian system were abolished. The regulation of operational and investigative activities became more public, received justification in the form of legislative norms, clear definitions and rules of conduct. In particular, guarantees for the observance of citizens' rights were provided by national constitutions, within which there are separate legislative acts that define the scope of regulation of operational and investigative activities. Undoubtedly, in the world practice, such activities have a more solid legislative tradition. For example, the United States allows for the participation of informants in operational activities, while in post-Soviet countries such norms have been enshrined relatively recently.

This research contributes to original insights into the fields of law and criminology and provides a comparative analysis of the legal regulation of operational-search activities in different jurisdictions. Originality lies in several key aspects. First of all, the work provided a detailed analysis of how operational-search activities have moved from opaque practices under totalitarian regimes, especially in post-Soviet states, to regulated and transparent systems. This historical perspective contextualizes current

regulatory frameworks and highlights their evolution, which has been underexplored in the existing literature.

A promising area for further research could be an analysis of the debate on the legitimacy of the use of covert methods by law enforcement agencies, as well as the relationship between public and covert actions. This will require additional justification in the legislation.

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Social media as an emerging threat to national security

Соціальні мережі як нова загроза національній безпеці

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Abstract

This paper explores in depth the growing impact of social media on national security across the globe while highlighting the risks posed by the rapid dissemination of information, the organization of unauthorized protests, and the spread of disinformation. It has been demonstrated that social media platforms such as Facebook, Twitter, Telegram and TikTok have been utilized by various actors, including activists, radical groups, and foreign states, in order to influence public opinion, incite violence, and destabilize governments. A comparative analysis of global events like the Arab Spring, the 2016 U.S. elections, Hamas attack against Israel, and protests in Hong Kong demonstrates how such platforms can serve dual purposes: fostering democratic values while simultaneously being exploited to undermine national stability. The research also

Анотація

У статті поглиблено досліджується зростаючий вплив соціальних мереж на національну безпеку в нашому світі, а також висвітлюються ризики, пов'язані зі швидким поширенням інформації, організацією несанкціонованих протестів та поширенням дезінформації. Продемонстровано, що соціальні медіа-платформи, такі як Facebook, Twitter, Telegram і TikTok використовують різні суб'єкти, включаючи активістів, радикальні групи та іноземні держави, з використанням впливу на громадську думку, підбурювання до насильства та дестабілізації діяльності урядів. Порівняльний аналіз таких глобальних подій, як Арабська весна, вибори в США 2016 року, атака ХАМАС на Ізраїль і протести в Гонконзі, демонструє, як такі платформи можуть служити подвійним цілям: сприяти підвищенню демократичних цінностей і водночас

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addresses the specific issue of separatism, where social media is used to disseminate ideologies that threaten territorial integrity and constitutional order. The proposed study also examines the potential of cyberattacks coordinated via social media, thus highlighting the vulnerability of state institutions and critical infrastructure. The research concludes by stressing the urgent need for a balanced regulation of social media, offering insights into international legal frameworks, enhanced cybersecurity measures, and also various challenges in maintaining both freedom of expression and national security.

An elaborated set of research methods (comparative, historical, method of systemic analyses) has been actively used in the course of this research, thus enabling the authors to combine theoretical observations with comprehensive data analyses.

Existing legislative approaches to regulating social media in the context of protecting national security interests in various jurisdictions, including Israel, China, Pakistan, the United States, and Ukraine, have been covered in the paper.

Keywords: national security, information society, criminal liability, social media, communication technologies.

використовуватися для підвищення національної стабільності. У дослідженні також вивчається конкретна проблема сепаратизму, коли соціальні медіа використовують для поширення ідеології, що загрожує територіальній цілісності та конституційному ладу. У пропонованому дослідженні також розглядається потенціал кібератак, скоординованих через соціальні мережі, що підкреслює вразливість державних інституцій та критично важливої інфраструктури. У висновках дослідження підкреслюється нагальна потреба у збалансованому регулюванні соціальних мереж, пропонується розуміння міжнародної правової бази, посилення заходів кібербезпеки, а також різних викликів у підтримці як свободи виразу поглядів, так і національної безпеки.

У процесі виконання цього дослідження активно використовувався розроблений набір методів дослідження (порівняльний, історичний, метод системного аналізу), що дозволило авторам поєднати теоретичні спостереження з комплексним аналізом даних.

У статті висвітлено існуючі законодавчі підходи до регулювання соціальних медіа в контексті захисту інтересів національної безпеки в різних юрисдикціях, зокрема в Ізраїлі, Китаї, Пакистані, США та Україні.

Ключові слова: національна безпека, інформаційне суспільство, кримінальна відповідальність, соціальні медіа, комунікаційні технології.

Introduction

Today, social networks have become popular platforms for spreading public messages and calls for action, which may threaten national security. Here are just a few typical ways that demonstrate how this happens.

First, the rapid dissemination of information, as social media allows for the instantaneous dissemination of information to a large audience of users. This can include both true information and disinformation, which can manipulate public opinion.

Second, it is the organization of protests and actions, including those unauthorized by the governments and obviously dangerous (armed) ones. In particular, social media platforms such as Facebook, Twitter, and Telegram are used to organize mass protests and actions. For example, activists can quickly mobilize a large number of people to participate in protests using Facebook groups and relevant messengers.

Third, the spread of disinformation and fake news, as social media is often used to spread fake news and other messages that can undermine national security by creating panic or distrust of the government on the part of the public. The so-called bots and trolls can actively spread such news, making it difficult to identify their source, a tactic actively used by the aggressor state. It is also worth paying attention to the manipulation of public consciousness, as platforms can be used to manipulate public opinion through targeted advertising and specially designed campaigns that undermine trust in democratic processes, such as elections and public accountability.

Fourth, it can be radicalization and recruitment. Radical groups use social media to recruit new members and spread extremist ideologies. This may include the use of closed groups and channels to discuss and plan joint destructive actions, influence operations, terrorist acts, etc.

Finally, it is the coordination of cyberattacks, as social media can be used to coordinate cyberattacks on state institutions, companies, or critical infrastructure, which can have serious consequences for the national security framework.

This study seeks to analyze the growing influence of social media on national security by examining how digital platforms are used to: spread disinformation and manipulate public opinion; organize unauthorized protests and radicalize individuals; coordinate cyberattacks on state institutions and critical infrastructure; promote separatist ideologies and destabilize territorial integrity; highlight global case studies (e.g., Arab Spring, U.S. elections, Hong Kong protests) to demonstrate the dual-purpose nature of social media as both a democratic tool and a destabilizing force. The research aims to offer a balanced regulatory approach for social media that safeguards national security without stifling key democratic freedoms.

Apart from the abstract and introduction sections, this paper included the following sections:

- Literature review – reviews existing research on the impact of social media on global conflicts, emphasizing its role in separatist movements and disinformation campaigns;
- Methodology – describes the research methods used, including comparative legal, historical, and systemic analyses, to explore social media's influence across various jurisdictions;
- Results and discussion – examines global case studies (e.g., Arab Spring, Russian disinformation campaigns) and the misuse of platforms like Facebook, Telegram, and TikTok. Discusses legal and cybersecurity responses in jurisdictions like the U.S., Ukraine, and China;
- Conclusions - highlights the dual role of social media as a tool for freedom and as a threat to national security while advocating for balanced regulation and international cooperation to address those challenges.

Literature review

Recently, legal commentators have been more actively researching the expanding phenomenon of social media in the context of globalization trends as well as threats to national security in various countries. A few authors and their scholarship are worth mentioning here.

E. Brooking, L. Mashkoor, L., and J. Malaret have jointly researched the impact of social media on the massive ongoing Middle East crises, how terrorists have been communicating, and even soliciting financial donations for their illegal activities through various social media platforms (Brooking et al., 2023).

J. Cox J. And J. Koebler have discussed a number of issues related to white nationalism and white separatism movements on Facebook and also how this powerful media platform has reacted to these threats by issuing content ban orders.

Also, a number of legal commentators from various “conflict zones” jurisdictions have commented on the negative impact on internal politics and public affairs, caused largely by bad actors’ manipulations relying on social media pages and challenges. For example, Pakistani scholar A. R. Iqbal has written on the pressing issues of social networking in Pakistan and how it fuels the separatist movement in the province of Balochistan.

In addition to publications on the topic of social media “weaponization” in various academic journals, a number of high-quality articles have also appeared on the pages of the “Amazonia Investiga” multidisciplinary journal. A recent paper on the topic of prosecuting cases of humanitarian aid embezzlement during the war in Ukraine explains how social media plays an important role in committing war-related crimes (Kamensky et al., 2023).

A group of Ukrainian scholars have recently published a paper, which discusses the importance of information security of critical infrastructure objects to guarantee Ukraine’s national security (Chernysh at al., 2023). Though not focusing directly on the issues of social media and national security, it explains how

access to information and various digital capabilities can have both a positive and negative impact on the national security ecosystem.

At the same time, various Internet platforms can serve for good as alternative sources of information during the period of war, as argued by a group of social communication researchers (Horska et al., 2023).

Overall, the ongoing academic discussion of such topics as an overview of social media in the national security context (Kasi et al., 2021), social media as a potential platform for extremism (Ganesh & Bright, 2020), impacts of social media on national security in various jurisdictions (Chukwuere & Onyebukwa, 2018), even the impact of modern education in the field of national security (Myroshnychenko et al., 2024) has recently intensified. The main reason for this lies primarily in the current global challenges and significant shifts in the global security architecture.

One can safely guess that with the further development of social media and also with the ongoing armed conflicts in various parts of the world, more research efforts by legal, national security, and military scholars will be given to this topic in the future.

Methodology

In the course of working on this paper, the following research methods have been used:

- The comparative legal method was chosen as a key tool of research with the goal of comparing how social networks affect national security interests in various jurisdictions and also how national governments respond to various threats posed by such networks. In particular, this method has been extensively used by Ukrainian scholars in the course of their research (Movchan et al., 2022) due to the fact that the Ukrainian independent legal system is a comparatively new one and foreign expertise in various legal issues is highly welcomed;
- The historical method allowed us to look into the origins of the growing social media phenomenon worldwide and how it has gradually become a real, though digital, threat for the national security and defense frameworks in different countries;
- The method of systemic analyses enabled to take an in-depth look into the globalized nature of modern social networks and also how their interconnectivity and access to billions of customers worldwide can affect national security interests, even more so in the polarized world of today. In modern research, when discussing various globalization-related issues, the method of systemic analyses becomes an important tool for “all-inclusive”, multidirectional analyses (Lutsenko et al., 2023).

Results and Discussion

The territorial integrity of nations is often perceived as a prerequisite for a functioning, unifying national identity. However, the economic and technological development of recent decades has enabled experts to question this assumption. It can no longer be taken for granted that people who identify with a given nation live in the same space, nor can it be assumed that cultural homogenization occurs at the national level through the media. In fact, today, nations thrive in cyberspace, and the Internet has become a key technology for “holding” nations (and other abstract communities) together in just a few years. Countries which have lost their territory (such as the Afrikaner-led South Africa), countries that have been disintegrated for political reasons (such as Tamil Sri Lanka or Kurdistan), countries with large temporary foreign diasporas (such as the Scandinavian countries, with their large communities in Spain in winter, or the large presence of Canadians in the US state of Florida, also in winter) or countries where many citizens work temporarily or permanently abroad (e.g. India or Caribbean island states or Ukraine) are represented on many Internet sites, from online newspapers and magazines to semi-official news sites and “virtual communities” home pages. According to many experts, in the current period of globalization and integration, the Internet is used to strengthen rather than weaken national identities (Eriksen, 2007).

Our analysis of the use of social media and various Internet resources to the detriment of national security interests has demonstrated that in most countries where this phenomenon can be traced, we are talking about the phenomenon of separatism, one of which manifestations is the actual use of social media as a kind of platform for calls for violence, terrorist acts, and the actual separation of a certain territory from an existing state recognized by the international community.

It is noteworthy that this refers to public calls against public security in the context of separatism, treason, calls to overthrow the constitutional order or seize state power, or commit other crimes against national security. In the language of the Ukrainian criminal law (Article 110 of the Criminal Code of Ukraine), this includes public calls, through the use of social media, to change the boundaries of the territory or state border in violation of the constitutional or other official order, as well as public calls or distribution of materials calling for such actions (Criminal Code of Ukraine, 2021).

For the purposes of our analyses, as reflected in the title of this paper and without any unnecessary political bias, here are some contemporary examples of social media being used to organize mass protests and other social actions.

1. The Arab Spring (2010-2011): social media played a key role in coordinating and mobilizing protests in many countries of the Middle East and North Africa. Activists used Facebook and Twitter to organize protests and draw the attention of the international community.
2. Russian disinformation campaign during the US elections (2016): Russian agents used social media to spread disinformation and fake news to influence the outcome of the US presidential election.
3. Protests in Hong Kong (2019): social media platforms, primarily Telegram and Twitter, were actively used to organize protests and disseminate information about police actions and the safety of protesters.

Thus, social media can be described as a dual-purpose tool: it can promote democratic values and freedom of speech, but it can also be used to undermine national security and destabilize society. Thus, a balanced approach to their regulation and monitoring by state authorities is required.

As one recent and large-scale example of illegal use of social media resources, in March 2019, Facebook banned white nationalism and white separatism on its platform, which was a major change in the communication policy of the world's largest social network with over 2 billion users. Facebook will also start directing users, who try to post content related to these ideologies to a non-profit organization that helps people leave hate groups. This policy applies to both Facebook and another popular social network, Instagram. Experts note that the social movements of white nationalism and white separatism are different from other separatist movements, such as the Basque separatist movement in France and Spain and black separatist movements around the world, because of the long history of white supremacism which has been used to subjugate and dehumanize people of color in the United States and around the world (Cox & Koebler, 2019).

At the same time, in the context of our study, the above provisions emphasize the growing awareness of the management of the largest social networks about the dangers of certain social movements, groups, and, in particular, those promoting separatism, hatred, violence, and various forms of discrimination.

Moving on with our analysis of modern foreign experience in countering public appeals, we will refer to the relevant Pakistani experience. Abdul Rauf Iqbal, a Pakistani scholar, states that, on the one hand, Internet has become the main open source of information, with social media emerging as an important platform for civil society. In a political discourse, it has created a coordinating tool for almost all political forces in the world. In particular, development of the global network is creating a similarly favorable environment in Balochistan, Pakistan's largest province⁶. For example, the Dissident Balochs group has its own Facebook page, using pseudonyms, real names, and profiles of like-minded activists and sympathizers. They create new Facebook pages, new social media communities, and coordinate joint events. They have a presence on Twitter (currently social network X), where they disseminate information, articles, blogs and videos in support of their ideology and actions. They have daily video content on YouTube channel, their own newsletters, and their own audience both inside and outside of Pakistan.

Having analyzed Facebook pages for empirical data on Balochistan separatists, the author concluded that eighteen out of thirty pages call for the spread of online separatism, while only two pages further the federal

⁶ As a reference: Balochistan is a historical region on the northern coast of the Indian Ocean, located on the border of the Middle East and Hindustan regions. It is administratively divided into provinces that are part of the neighboring countries: Afghanistan (Helmand, Kandahar), Iran (Sistan and Baluchistan) and Pakistan (province with the the same name). The main religion in this region is Islam. The Baloch have not abandoned the idea of creating their own independent state. The Baloch of Iran and Afghanistan, as well as the Pashtuns, who number more than 4 million people in the province of Balochistan, are in solidarity with the Baloch of Pakistan. In some areas of the province, guerrillas continue their activities aimed at separating the region, in some cases attacking armed forces units.

ideology of a unified Pakistan. This means that the separatists' online reach and, consequently, audience is much larger than that of the federalists. Although the total number of separatists is only in the thousands, the increase in the number of dissident pages signifies a radical trend in social media, especially in the case of Balochistan. This, the author concludes, is an alarming trend that needs to be seriously studied and potentially addressed (Iqbal, 2011).

Every social movement, whether legitimate or banned, requires financial resources, and the Baloch use their natural resources for economic gain; the province also enjoys external financial support. Because, and this is obvious, the national media is hostile to the Baloch insurgency, they have long used social media to communicate effectively. The ongoing struggle for an independent Balochistan is accompanied by the use of common symbols that characterize the movement. All of this indicates that Islamabad's policy of largely ignoring the province has created a vacuum that the Baloch insurgent leadership is exploiting. It is also worth noting that insurgents' messages and appeals have shifted to social media sites, which are used by billions of users around the world. Internet is a cheaper medium and at the same time it is an extremely fast tool for disseminating information. Hence, the spread of insurgent (separatist) ideology on these sites creates a new wave of social mobilization on the Internet. Although there are relatively few of them at the moment, active use of social media sites can, as experts warn, cause dangerous unrest in the political discourse of Pakistan (Iqbal, 2011).

By the way, in the first months of 2024, attacks and terrorist attacks became more frequent in this huge and resource-rich province. Intense shelling and the use of suicide bombers were directed against Pakistani security forces as well as foreigners. Responsibility for most of the attacks was claimed by the Baloch Liberation Army (until 2022, it had its own Telegram network presence), a separatist militant group that the United States has designated as a terrorist organization (Siddique, 2024).

Moving on in our analysis of countering public appeals in various jurisdictions, we would like to note the following. Experts of the authoritative American research organization "RAND" have concluded, based on the results of a comprehensive analysis, that the social network Twitter has made a coordinated attempt to influence the upcoming presidential election in the United States – with the help of trolls (fake identities that spread political/social narratives) and superconnectors (accounts with high network connections on social platforms) – is aimed at sowing distrust, exacerbating political divisions, and undermining confidence in the foundations of American democracy. While RAND experts acknowledged that they could not definitively attribute the past interference in the presidential election to a specific actor, the tactics and trend they observed on Twitter reflect Russia's longstanding strategy of exploiting existing tensions between the parties to create a sense of disunity among U.S. voters; they also advance Russia's geopolitical interests.

According to W. Marcellino, leading author of the study and a scholar of social issues and behavior at RAND, social media has made it much cheaper and easier for foreign actors to launch increasingly sophisticated attacks on democratic processes and political discourse in any given nation. He adds that many Americans are now immersed in online conversations that have been artificially shaped and that give them a false and distorted picture of the world and events in it. The study used software tools developed by RAND to analyze a large dataset of 2.2 million tweets from 630,391 unique Twitter accounts collected between January 1 and May 6, 2020. The comprehensive analysis revealed that troll and superconnector accounts were predominantly grouped in certain Twitter groups that were involved in political discussions about the presidential election (Marcellino et al., 2020).

Social media has allowed us to communicate more easily and quickly than ever before. At the same time, they have also created a new "platform" with a potential for committing offenses and communicating among offenders. Homeland security, customs and border security, law enforcement, and other organizations can monitor publicly available information on social media to gain threat intelligence – to detect and mitigate criminal activity and potentially stop it in its tracks.

Interpol reports that terrorists are now using social media for "radicalization, recruitment, financing and planning of terrorist activities". As part of its counterterrorism efforts, INTERPOL and other law enforcement agencies are able to track suspected terrorists, examine social media posts, and update suspect lists as necessary. Similarly, visa pre-application officers can use social media threat monitoring to check applicants' online activities to determine whether they are in any way connected to terrorists on watch lists (Marcellino et al., 2020).

Today social media are regularly used to conduct disinformation campaigns of various kinds and intensity. First and foremost, we are talking about disinformation campaigns aimed at undermining national security and constitutional order in a particular state. The use of fake news is an effective tool for organized disinformation campaigns aimed at destabilizing states by undermining foundations of public life and democratic processes, including elections. This category has the most destructive impact on national security and social cohesion in any given state.

Recently, bots have become a part of the social media landscape, at least in the medium term. Innovations in parallel computing and improvements in algorithm construction are expected to make it more difficult to distinguish artificial bots from real users, i.e. humans. Some researchers believe they have discovered fake Facebook groups almost entirely filled with bots. These fake groups, if skillfully managed and organized, could eventually engage real users in certain socio-political processes, such as elections (Vasu et al., 2018).

Currently, U.S. federal law enforcement agencies are very active (in some cases even aggressive) in responding to disinformation (not always calls) on the Internet, including social media.

American journalists and lawyers agree that today media plays an important role in shaping public opinion about national security policy and its legal parameters, and therefore bear a great responsibility for performing the media function with the highest possible degree of professionalism. Since the 9/11 terrorist attacks, many complex and sensitive issues related to national security and the rule of law have arisen, thus increasing the challenge for the media to fulfill their role with care and accuracy. Some of these aspects reflect the inherent tension between the principles of civil liberties, privacy, due process and human rights.

Analyzing some of the problematic issues related to the impact of social media on national security interests, Pakistani authors argue that social media can, on the one hand, pose a threat to national security, and on the other hand, serve as a useful tool or asset for protecting national interests of the state. The authors conclude that terrorist organizations use social media as a tool for ideological radicalization, communication, and training of their members, and thus can threaten security of any state in the world. Researchers also make a reasoned assumption that future revolutions, military conflicts and other social disasters will increasingly take place in societies whose members are connected via media and other information technologies. Social media, as one of the manifestations of hybrid warfare, is already being used by the military in many countries and is likely to become even more active. During a large-scale conflict, the purpose of using social media is to mislead, propagandize and directly influence society (Kasi et al., 2021). Unfortunately, this is currently happening, on a much bigger scale, against the backdrop of the war in Ukraine.

As another researcher aptly puts it, in the era of the information revolution, the media is the most influential tool for persuading national policies and interests. It is becoming clear that governments desperately need the increased support of the media to project their clear position and moral supremacy. An exploratory perusal of the news and headlines convinces us that the print media in Pakistan remains more than patriotic. The time has come for the government to take appropriate measures to improve its own media profile. Failure to recognize and counteract the enemy's use of the media can lead to unprecedented military and national defeats. Thus, in today's technologically complicated world, media will continue to remain a tool for the effective realization of national interests (Hussain, 2008).

Next, within the framework of our comparative legal analysis, we will turn to the issue of a potential threat to the US national security from the popular social network TikTok.

Despite the fact that TikTok seeks to distance itself from the official Chinese authorities, China's current aggressive policy "sheds light" on the possibility of maintaining covert ties between this social network and the Chinese government.

As a matter of national security priorities, the US Department of Defense in its current Cybersecurity Strategy (2023) describes China as a "growing", "broad and pervasive" threat to the United States (U.S. Department of Defence, 2023).

It is no secret that modern communication technologies and an increasingly digitalized world make it possible to wage war in new, unprecedented ways.

In particular, the Chinese government is currently paying special attention to cyber espionage techniques. Gathering data for foreign intelligence in cyberspace offers a number of advantages that human intelligence cannot objectively offer, including access to large amounts of data that can be easily transferred and also improved protection mode due to the difficulty of identifying the source (Wortzel, 2014).

Espionage, primarily in the form of cyber espionage, can support China's domestic operations and contribute to the development of the national economy, but it can also enable the People's Liberation Army (PLA) to better prepare for any potential military conflict.

The same can be said for China's collection of foreign social data – thus, better understanding the enemy's values, activities, and lines of “polarization” in society can make the task of the military easier.

Recently, the United States has received information that China is accumulating huge amounts of data from various sources for potential future use in numerous ways. This approach is referred to as a “grain of sand” or “mosaic” strategy, which comes from a popular quote in the world of security and covert operations: “If the Russians want to get special sand from a special beach, they will use a submarine. At night, they will swim up, collect a bucket full of sand, take it to the submarine, and leave the beach. The Chinese, on the other hand, will have 500 people picnicking on the beach, each of whom will collect sand in a small jar (or each will take one grain of sand) and bring it back” (Smith, 2023).

Seemingly irrelevant data can be valuable for various social engineering campaigns and future propaganda operations. China is capable of covertly collecting intelligence and conducting espionage operations through corporate proxies and by infiltrating US supply chains.

TikTok can, at least hypothetically, help China collect valuable social data, shape influence over target audiences, track expatriates, and open avenues for future operations under the facade of a harmless platform that fosters creativity. Social media is only one aspect of China's larger efforts to reduce competitive advantage of the United States and establish its own global dominance. China is seeking to penetrate American information ecosystem and physical and technological infrastructure, in particular, through a foreign economic strategy launched in 2013 and widely known as the Belt and Road Initiative.

The Chinese Liberation Army has publicly spoken about the use of social media during the war, which further confirms the ability of TikTok to potentially become a type of new information weapon. So far, the United States has not been able to mitigate the actual and potential threats that TikTok poses to US national security. This thesis leads to the conclusion that TikTok in particular and the broader social media ecosystem in general should be considered as extremely effective tools for intelligence gathering, as well as for conducting targeted information operations and strategic influence on the general public, on the perception of various political, social, and economic processes by society. So, the main thesis is this: the United States must take appropriate measures to protect its citizens, assets, and competitive advantage in the social media ecosystem (Cullen, 2023).

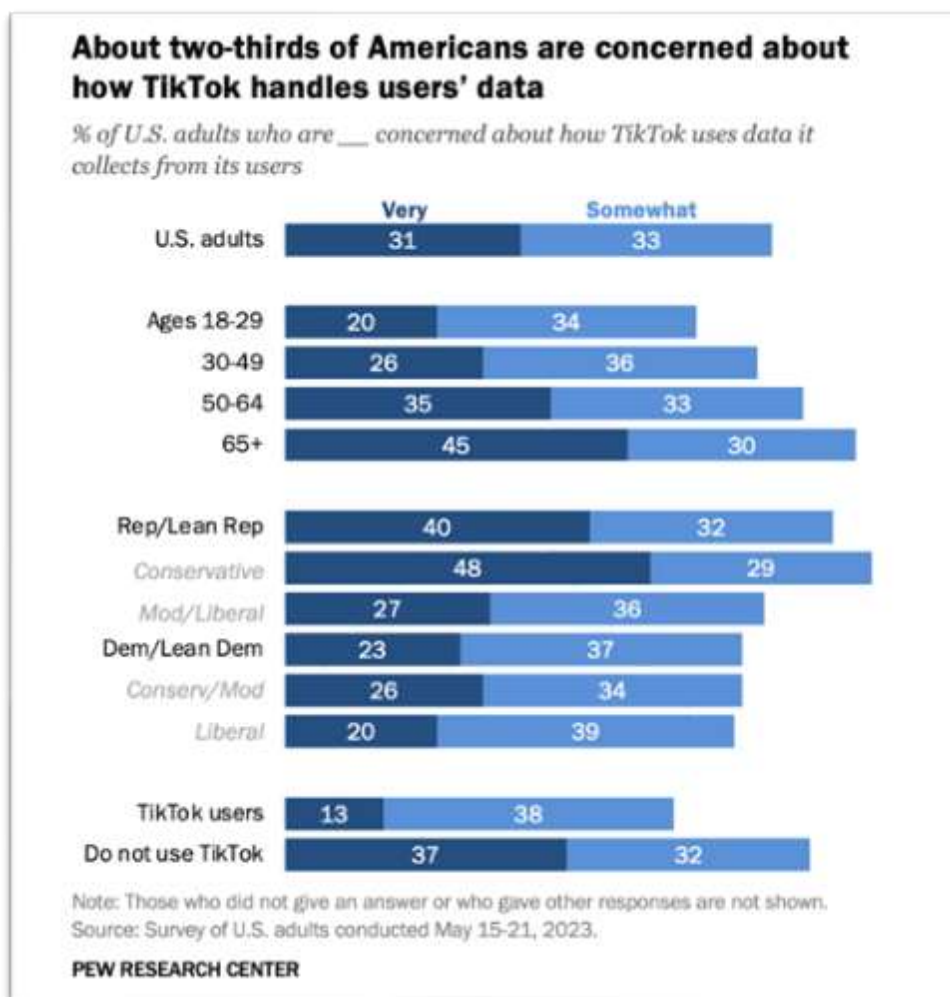


Figure 1. American Survey of citizens on the potential threat of TikTok to national security.
Source: (Pew Research Center, 2023).

Recently, other American researchers have also been paying increasing scholarly attention to the threats that social media pose to national security interests. For example, T. Whelpley writes that, on the one hand, the relatively new and growing phenomenon of social media has many positive consequences for the US national security. It can be used as a means of warning or prevention in military campaigns, such as the war on terror, and as an institutional communication tool. On the other hand, social media can also hinder national security. It plays a controversial role in information warfare, and can be used as a recruitment tool for terrorists, other criminals, and hacktivists willing to spread disinformation and uncontrolled threats. Options for addressing these challenges are as diverse as they are controversial. They range from regulating Internet to exempting social media from any government control. The author summarizes that social media have a more negative impact on national security than a positive one. His recommendations include a more progressive, lawful behavior-oriented self-regulation of the Internet, rather than increased state control (Whelpley, 2014).

In a comparative context, from the standpoint of combining transparency and protecting national interests, it is worth referring to the Draft Law presented on March 25, 2024 in the Ukrainian parliament, which aimed to ban Telegram in Ukraine if the parent company did not introduce certain changes to protect against threats to national security (Verkhovna Rada of Ukraine, 2024).

According to some experts, using Telegram messaging app to send personal data and for official purposes, especially in the public sector and in military zones, is not recommended. Anonymity on the platform is often used to spread false information, he added, including by Russian special services, which negatively affects public order and security in Ukraine (Katsimon & Honcharuk, 2024). This is not to mention the use

of Telegram by Russian special services to engage Ukrainian citizens in various forms of cooperation, including reporting locations of the Armed Forces units and military and logistics facilities.

Today, the social network Telegram is actively used, among other things, to cover the war in the Gaza Strip. For example, on October 7, 2023, at 7:14 a.m. local time, the Hamas group al-Qassam Brigades announced on its Telegram channel the launch of a coordinated terrorist attack against Israel. Subsequently, many more vivid posts appeared on both Hamas's Telegram channels and the channels of other Hamas paramilitary groups, which went viral. In just a few hours, the channel's reach has grown by more than 50 percent to 337,000 subscribers (Brooking et al., 2023).

Other global social networks, such as Facebook, X, and TikTok, were also actively used by terrorists to cover their actions. And in the vast majority of cases, such coverage was "distorted" and untrue, aimed at creating false narratives for users. Thus, unlike other social platforms that have introduced very effective mechanisms for restricting certain types of content, Telegram users' channels regularly use the platform to spread and amplify propaganda. Channel owners can choose to unidirectionally broadcast their messages to a wider audience, thus allowing them to tightly control which messages are disseminated through their channels. These controls make Telegram an attractive "first stop" choice for individuals who create and distribute content that can quickly spread to other platforms and reach a wide audience. Already in the first weeks of the propaganda war between Israel and Hamas, this meant that many of the most viral images and videos appeared on Telegram.

In the context of our study, it is also worth noting that the US National Security Strategy, dated October 12, 2022, emphasizes, on the one hand, active and comprehensive support for Ukraine in terms of protection against a full-scale invasion of Russia and further development on democratic and market principles, and on the other hand, the need to strengthen protection against cyber threats of various kinds. It is important to realize that this also applies to potential threats to civil society posed by social networks. The document emphasizes that, as an open society, the United States has a strong interest in strengthening assets that mitigate cyber threats and increase stability in cyberspace. The United States is committed to deterring cyberattacks by state and non-state actors and will continue to respond decisively with all appropriate instruments of national power to hostile actions in cyberspace, including those that disrupt or degrade vital national functions or critical infrastructure. The American position is that this country will continue to promote compliance with the UN General Assembly-endorsed framework for responsible state behavior in cyberspace, which recognizes the key principle: international law applies both online and offline (The White House, 2022).

Conclusions

This research paper underscores the dual nature of social media, which serves as both a platform for free expression and a tool for activities that can jeopardize national security. Through a comparative analysis of global case studies, including the Arab Spring, the 2016 U.S. elections, and protests in Hong Kong, it is evident that social media has become instrumental in shaping political discourse, organizing mass protests, and influencing public opinion. However, these platforms are also frequently exploited for more dangerous purposes, such as spreading disinformation, radicalizing individuals, and coordinating cyberattacks on state institutions.

The role of social media in fostering separatism presents a particular threat to territorial integrity, as seen in various regions where online platforms are used to promote ideologies that challenge state sovereignty and constitutional order. Such a dynamic illustrates the growing complexity of managing security threats in a digital world where geographical boundaries are less relevant.

To mitigate the risks discussed in this paper, there is a pressing need for a balanced approach to the regulation of social media. This must involve not only legal frameworks that address the misuse of these platforms but also enhanced cybersecurity measures to protect critical infrastructure. Moreover, international cooperation is essential to address cross-border disinformation campaigns and other cyber threats that transcend national jurisdictions. While protecting national security, it remains vital to maintain the fundamental freedoms that social media platforms provide, ensuring that measures taken do not stifle legitimate democratic expression.

In conclusion, this research paper highlights a contribution to the ongoing discourse on national security and social media by offering a nuanced perspective on the dual role of social media as both a catalyst for democratic engagement and a potential vector for security threats. This study adds value to the ongoing academic research by integrating comparative global case studies, highlighting emerging security threats, advancing policy recommendations and also referring to the national security debate.

The study underscores the urgent need for robust, adaptable strategies that mitigate the misuse of social media while upholding its role as a space for democratic expression. In our view, such dual emphasis makes the research particularly relevant for contemporary discussions on security policy in the context of rapidly evolving digital technologies and the changing global security landscape.

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Assessment of solvency-liquidity relationship in food and meat producing organizations

Արժույթային և լիկվիդության հարաբերության գնահատում սննդի և մսի արտադրող կազմակերպություններում

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Abstract

Cash flow management in commercial organizations of the production sector is one of the key problems of financial management in the post-crisis stages of the pandemic and its overcoming, which requires new solutions.

This article presents practical solutions for improving financial management in the context of liquidity-solvency relationship, cash flow, and current asset valuation in six leading companies that produce food and meat products by capitalization listed on the world stock exchange and studied.

Since the role of artificial intelligence is highly valued in the current period, financial management professionals have also started to use various learning forecasting models in order to increase the efficiency of their decision-making.

Forecasting the capital structure in commercial organizations with an artificial intelligence model is a completely new approach in the financial management system, the main task of which is to define the preferred ratio of the components of liabilities in connection with the minimum cost of capital.

Keywords: food, meat, cash flow, listed company, machine learning model, stock market, capital, assets, liabilities, net income, current, assets, net cash flow, liquid cash flow, financial management, liquidity, solvency, operational risk.

Ամփոփում

Արտադրական ոլորտի առևտրային կազմակերպություններում դրամական միջոցների հոսքերի կառավարումը համաճարակի և դրա հաղթահարման հետճգնաժամային փուլերում ֆինանսական կառավարման առանցքային խնդիրներից է, որը պահանջում է նոր լուծումներ:

Այս հոդվածում ներկայացվում է իրացվելիություն-վճարունակություն հարաբերությունների, դրամական միջոցների հոսքերի և ընթացիկ ակտիվների գնահատման համատեքստում կապիտալիզացիայով ուսումնասիրված վեց առաջատար ընկերություններում գործնական լուծումներ ֆինանսական կառավարման բարելավման համար, որոնք արտադրում են սննդամթերք և մսամթերք՝ և ցուցակված են համաշխարհային ֆոնդային բորսայում:

Քանի որ ներկա ժամանակաշրջանում արհեստական ինտելեկտի դերը բարձր է գնահատվում, ֆինանսական կառավարման մասնագետները նույնպես սկսել են օգտագործել ուսուցման կանխատեսման տարբեր մոդելներ՝ իրենց որոշումների կայացման արդյունավետությունը բարձրացնելու համար:

Արհեստական ինտելեկտի մոդելով առևտրային կազմակերպություններում կապիտալի կառուցվածքի կանխատեսումը լիովին նոր մոտեցում է ֆինանսական կառավարման համակարգում, որի հիմնական խնդիրն է որոշել պարտավորությունների բաղադրիչների նախընտրելի հարաբերակցությունը կապիտալի նվազագույն արժեքի հետ կապում:

Հիմնաբառեր: սնունդ, միս, դրամական հոսքեր, ցուցակված ընկերություն, մեքենայական ուսուցման մոդել, ֆոնդային շուկա, կապիտալ, ակտիվներ, պարտավորություններ, զուտ եկամուտ, ընթացիկ, ակտիվներ, դրամական միջոցների զուտ հոսքեր, դրամական միջոցների հոսք, ֆինանսական կառավարում, իրացվելիություն, վճարունակություն, գործառնական ռիսկ:

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Introduction

In modern conditions, the management of own current assets of commercial organizations is directly characterized by the ratio of long-term and short-term sources of financing: considering the provision of a favorable level of profitability as the primary goal, the formation of the necessary conditions for the financial stability, liquidity and normal solvency of the organization. Due to this, the choice of the type of policy for the formation of own current assets depends on the direction of the organization's financial policy, profitability-risk, and solvency-liquidity relations.

The Covid-19 pandemic has had a significant impact on the solvency and liquidity levels of commercial organizations in the manufacturing sector. Due to the massive spread of the pandemic, many EU entities, especially in mining and retail, have started to show signs of insolvency due to low revenue levels and large cash outflows (Chang, Gan & Mohsin, 2022).

Therefore, in practice, there is a need to restructure the structure of sources of financing current assets of organizations within the framework of financial policy, as a result of which the priority task is to neutralize the risk of insolvency.

Inventory, trade receivables, short-term financial investments, and cash and cash equivalents are key components of current assets when developing approaches to increasing solvency. In particular, Karim, R., Mamun, M.A.A. & Kamruzzaman, A.S.M., examining 18 years of data from all sectors of Bangladesh and using the GMM estimation model, in the results obtained by their research, they confirmed the point of view that by minimizing the amount of stocks, the shelf life of the finished product, improving the collection of receivables and extending the repayment period of payables as much as possible can have a significant positive impact on the profitability of Bangladeshi companies. In particular, the unfavorable structure of capital allocation was highlighted as one of the key issues (Karim, Mamun & Kamruzzaman, 2023).

This point of view also highlights the urgency of finding new solutions to the problem of not only forming the preferred structure of capital for organizations, but especially predicting the rational structure of its allocation in current assets.

According to the research results of N. Aktas, E. Croci & D. Patmezas, the hypothesis was put forward according to which the companies in which there is an optimal level of working capital policy and those companies, that approach that optimal level (increasing or decreasing their investment in working capital), practically improve their inventory levels and operational management performance (Aktas, Croci & Petmezas, 2015).

The current asset and current liability turnover management policy of a food and meat producing organization is also directly related to the formation of a rational capital structure, which at the current stage is necessary for the creation of sufficient reserves of liquidity and solvency of the balance sheet.

It should be noted that in the post-crisis phase caused by the pandemic, efficient, predictive scenarios-based solutions for the development and application of new approaches are required in order to implement effective interrelated control of solvency and liquidity in large organizations producing food and meat products. This determines the relevance and importance of the research carried out on the example of the leading organizations of the food and meat producing sub-branch.

Review of literature

Effective financial management is extremely important for the sustainable development of any organization. Researchers Charli Sitingjak, Anne Johanna, Buschhaus Avinash, Bevoor Bevoor conducting a comprehensive analysis of financial management: as a network of interconnected processes, studied the function of financial management within the organization and its role in the context of achieving financial optimization (Sitingjak et al., 2023).

At the current stage, within the framework of financial management directions, new research solutions are connected with the problems of financial security of organizations: emphasizing liquidity, required return on equity, desired level of solvency in relation to debt service. In particular, Lita C. Megasanti, Hedwigis Esti Riwayati put forward the point of view with the results of joint research, that institutional

ownership in companies in the construction sub-sector facilitates the acquisition and financing of companies by both lenders and investors, thereby increasing the liquidity of the construction company. However, increasing the level of liquidity is used not only for the purpose of the company's activities, but also for its political interests. In terms of improving the efficiency of solvency management, the acceleration of the collection of receivables was emphasized.

Hoang Bui and Zoltan Krajcsak studied the effect of corporate governance on the performance of the companies' financial indicators, particularly financial results, for publicly listed companies in Vietnam for the period 2019-2021. According to the obtained results, companies mainly focus on making decisions that are in the best interests of shareholders, which increases the value of these companies to investors, thereby contributing to the improvement of the company's value (Bui & Krajcsak, 2023).

In the context of the solvency-liquidity relationship, Jessica Medeline Effendie, Henny A. Manafe, Stanis Man in their joint research tried to find the main determining factors at the current stage, with which liquidity indicators affect the solvency of the organization from the point of view of the fulfillment of financial obligations. By studying the behavior of the current liquidity ratio (current assets/current liabilities) it was revealed that the high value of the latter, especially in the case of a high proportion of cash in current assets, has a negative impact on profit (Effendie, Manafe, & Man, 2022).

Hussain, Rana Yassir; Wen, Xuezhou; Hussain, Haroon; Saad, Muhammad suggest using long-term debt to manage insolvency risk in listed real sector companies in Pakistan. They hypothesized that debt repayment decisions are more important than capital structure decisions because they are directly related to insolvency risk (Hussain et al., 2022). In the framework of this article, we will try to refute this hypothesis by applying the results of our predictive machine learning model for predicting capital formation (Baboyan, 2021), (Baboyan, 2022).

Note that machine learning models are gradually gaining primary importance in new approaches to financial management. Specifically, Zong-De Shen & Suduan Chen developed a financial condition assessment and forecasting model based on hybrid machine learning technology. This study applied several machine learning technologies. First, important variables were screened using artificial neural networks (ANNs). Then, prediction models were built based on decision tree C5.0 and random forest (RF). According to the empirical result, the ANN-RF model provided higher accuracy (Shen, & Chen, 2022).

In their research, Annisa Nafatul Jannah, Hasim As'ari aimed to reveal the relationship between solvency-liquidity-profitability in audit frameworks using data from 180 organizations in the energy sector, combining quantitative research methods and a number of analytical tools (Jannah, & As'ari, 2023). The results of this research revealed that liquidity and solvency variables have no effect on audit delay (their significance values are greater than 0.05).

J. M. Effendie, Henny A. Manafe, S. Man have given significant importance to financial ratios in the analysis of solvency and liquidity on the financial condition of Indonesian companies, that they are useful for recording the financial health of the company at the current stage or in the future (Effendie, Manafe, & Man, 2022).

As for the solvency-liquidity correlation management through current financial demand liquidity bands, then scenario solutions were proposed by researchers Professor A. Matevosyan, L. Hovakanyan, M. Matevosyan and A. Grigoryan's joint research (Matevosyan et al., 2023). The components of determining the current financial requirement used in this approach are also directly applicable from the point of view of calculating the liquid cash flow index.

Taking into account the existing approaches regarding the solvency-liquidity relationship within the framework of financial management, within the framework of this article, the main goal is to propose a methodological and interrelated optimization approach as a new solution direction in leading food and meat producing organizations with capitalization listed on the international stock exchange.

Research methodology

A study of various approaches to financial management shows, that the control of solvency and liquidity of commercial organizations, (Megasanti & Riwayati, 2023) within its framework, there are various

methodological approaches, especially in terms of current assets and liabilities components, their turnover evaluation, cash flow calculation. (Van Horn, & Wachowicz, 2008).

Causal assessment identified significant factors on earnings per share of listed consumer goods companies in Nigeria Gilbert Ogechukwu Nworie; Vitalis O. Moedu; By Onyali, Chidiebele Innocent Current Assets, Inventory Turnover Ratio, Cash Ratio (Nworie et al., 2023).

Within the framework of the research, we offer new methodological solutions.

1. Current assets (inventories, trade receivables, cash, other current assets) and liabilities (equity, non-current liabilities, total current liabilities) of food and meat producing organizations are carried out, analysis of the relative weights of the main components in the total assets.
2. We offer a new calculation approach for the current liquidity ratio used for liquidity assessment:

$$K_{CLG} = \frac{K_{CLT}}{K_{CAT}} * \frac{T_{CA}}{T_{CL}} * \frac{T_{CL}(\frac{1}{T_{CL}}+1)}{T_{CA}(\frac{1}{T_{CA}}+1)} = K_{CLT} / K_{CAT} * \frac{(\frac{1}{T_{CL}}+1)}{(\frac{1}{T_{CA}}+1)}, (1)$$

With further modification we will have:

$$K_{CLG} = \frac{K_{CLT}}{K_{CAT}} * \frac{(\frac{1}{T_{CL}}+1)}{(\frac{1}{T_{CA}}+1)} = \frac{\frac{K_{CLT}}{T_{CL}} + K_{CLT}}{\frac{K_{CAT}}{T_{CA}} + K_{CAT}}, (2),$$

Where:

K_{CLT} - is the current liabilities turnover ratio,

K_{CAT} - is the current asset turnover ratio,

T_{CL} - is the growth rate of current liabilities in the reporting period,

T_{CA} - is the growth rate of current assets in the reporting period.

The importance of the proposed approach comes down to:

- If the value of the current liquidity ratio is high, and the value of the current liabilities turnover ratio tends to the maximum, then, it is advisable to the value of the turnover ratio of current liabilities will increase in parallel with the current liabilities, in accordance with the condition of $T_{CL} < 1$.
- If the value of the current liquidity ratio is high, and the value of the current liabilities turnover ratio tends to the minimum. In this case, the decrease in the value of the turnover ratio of current assets should be carried out in parallel with the increase of current assets, ensuring: the value of $T_{CA} > 1$.

3. Liquid cash flow indicator Bocharov V.V., & Leontev V.E. (2004).

$LCF = (\text{short term loans} + \text{long term loans} - \text{Cash on Hand})_{\text{reporting period}} - (\text{short term loans} + \text{long term loans} - \text{Cash on Hand})_{\text{previous stage}} (3)$

We suggest calculating the formula as follows:

$LCF = (\text{Current Liabilities} + \text{long term loans} - \text{Cash on Hand})_{\text{reporting period}} - (\text{Current Liabilities} + \text{long term loans} - \text{Cash on Hand})_{\text{previous stage}} (4):$

The importance of including total current liabilities in the calculation formula of LCF is justified by the fact that they have a direct impact on the current solvency of a specific commercial organization and are limited only to the index of long-term loans, in practice, short-term loans causing problems in terms of current solvency, purchase payables, received advances, and short-term tax payables to the budget are ignored.

4. To determine the Sum Solvency, we use Van Horn's solvency assessment coefficients (Van Horn, & Wachowicz, 2008).

5. The correlation between the liquidity ratio determined in the second step and the solvency sum estimate determined in the fourth step (Mukaka, 2012) and the risk (standard deviation/average magnitude) are evaluated (Nikolova, 2015).
6. Using our predictive machine learning model (Baboyan, 2023) that predicts capital build, we determine the capital structure for the studied organizations according to the best option. The following successive operations are carried out:
 - $Y1$ (own current assets/current assets) $\cdot 100$) and $Y2$ (own current assets/ equity) $\cdot 100$ is determined by the input variables relative to the balance sheet total P1- Share Holder Equity, P2- Long Term Debt, P3 -Total Current Liabilities,
 - The pair $Y1$, $Y2$ corresponding to the best option is predicted by the solution of the inverse problem,
 - The components of current assets are predicted using the forecasted pair $Y1$, $Y2$: A1-Inventory, A2-Receivables, A3-Cash on Hand, A4-Pre-Paid Expenses +Other Current Assets:
7. Based on the results of the predictive machine learning model predicting the capital structure, the current liquidity and solvency sum estimates, the liquid cash flow index are calculated and their actual and forecasted results are compared.

Recommendations aimed at improving the solvency-liquidity relationship for the studied organizations producing food and meat products are presented.

Results and discussion

Among the leading international food and meat producers listed on the stock exchange, the first four are Tyson Foods (37-year share price history), Hormel Foods (33-year stock price history); JBS SA (52 years of share price history), Pilgrim's Pride (36-year stock price history) and top-six Beyond Meat (4-year stock price history); Steakholder Foods (2-year stock price history) has a long history and is distinguished by its distinctive traditions.

Food production is considered the process of turning raw materials into edible food. The food production process includes various stages, cleaning, processing, separation and ends with packaging and marketing.

Meat is an important source of food for many people around the world. The global demand for meat is growing: meat production has more than tripled over the past 50 years. Now more than 340 million tons (Ritchie, Rosado & Roser, 2019) are produced in the world every year.

Within the framework of this article, our main goal is to highlight the existing problems in the process of solvency and liquidity management in food and meat producing organizations and to propose new approaches to their related control.

Step 1. As shown in Food Items - Meat Products - Top Stocks (Macrotrends, 2023).

the analysis of the relative weights of the main components of current assets(inventories, trade receivables, cash, other current assets) and liabilities (equity, non-current liabilities, total current liabilities)in total assets in the listed and studied food and meat producing organizations, then, especially in the last five years, there is a structurally irrational picture of JBS SA, Beyond Meat and Steakholder Foods among the top six companies listed on the stock exchange that produce food and meat products.

The behavior of the specific weights of the components of current assets and liabilities in the studied organizations is presented in table №1.

The data in Table No. 1 show that among the studied organizations, JBS SA, Beyond Meat Steakholder Foods have a problem of rationalizing the capital structure; the problem of low cash turnover is also evident in the last two. In the other three leading organizations, we will consider the effectiveness of financial management in the context of the use of the best option of capital.

Table 1.

The behavior of the shares (%) of current assets and liabilities components in listed organizations producing food and meat products

	Tyson Foods/ US/		Hormel Foods/US/		JBS SA/Brazil/		Pilgrim's Pride/US/		Beyond Meat/US/		Steakholder Foods/Israel/	
	30.09.2023	30.09.2022	31.10.2022	31.10.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021
P1- Share Holder Equity	50.36	53.8	56.66	54.96	23.93	23.08	30.83	29.05	-19.16	9.61	51.47	92.54
P2-Long Term Debt	21	21.35	24.73	26.11	40.42	38.92	34.21	35.8	106.76	81.93	20.3	0.61
P3 -Total Current Liabilities	17.93	14.43	11.07	11.15	26.51	28.88	27.77	26.82	7.14	6.83	28.23	6.85
A1-Inventory	14.7	14.98	12.49	12.9	18.19	16.4	21.5	17.68	17.09	17.53	0	0
A2- Receivables	6.83	7	6.13	6.57	12.28	11.15	13.57	11.7	2.48	3.18	1.65	6.84
A3-Cash on Hand	1.581	2.8	7.502	4.999	6.87	12.04	4.69	5.05	29.177	53.16	42.074	47.54
A4-Pre-Paid Expenses +Other Current Assets	0.95	1.38	0.29	0.36	0.8	0.93	2.28	2.67	19.57	2.4	0	0

Source: (Macrorends, s/f).

Step 2. We present the results of the new calculation approach for the current liquidity ratio used for the purpose of liquidity assessment in table №2.

Table 2.

Current liquidity ratio with the proposed new calculation approach in listed organizations producing food and meat products

		2023	2022	2021	2020	2019
1	Tyson Foods /US/	1.34	1.81	1.55	1.79	1.27
2	Hormel Foods/US/	1.43	2.47	2.08	2.38	2.14
3	JBS SA /Brazil/	1.44	1.4	1.48	1.47	1.71
4	Pilgrim's Pride /US/	1.51	1.38	1.5	1.58	1.72
5	Beyond Meat /US/	8.00	11.17	3.73	8.46	4.09
6	Steakholder Foods Israel	-	-	-	-	-

Behavior

The mathematical trend of the feasibility factor calculated with the new approach R2 assessment values for 2019-2023. the best behavior was recorded in JBS SA /Brazil/: $R2 = 0.65$ and Pilgrim's Pride /US/: $R2 = 0.61$; Organizations Hormel Foods/US/ $R2 = 0.26$ and Beyond Meat /US/ $R2 = 0.27$ took similar values. Irregular liquidity management behavior was observed in the organization Tyson Foods /US/ $R2 = 0.01$. As for the Steakholder Foods /Israel/ organization, calculations using this method were not made due to the lack of required data.

Step 3. The calculated values of Liquid cash flow index proposed for solvency assessment are presented in table № 3.

Table 3.

The comparison of the liquid cash flow indicator with the proposed new calculation approach in listed organizations producing food and meat products

	Tyson Foods/ US/		Hormel Foods/US/		JBS SA/Brazil/		Pilgrim's Pride/US/		Beyond Meat/US/		Steakholder Foods/Israel/	
	30.09.2023	30.09.2021	31.10.2022	31.10.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021
Total current liabilities: (P3+P4+P5)	6499	5313	1473265	1415654	1068454	1108321	2570169	2390823	75841	94189	4324	2786
Long term debt: P2	7611	7862	3290549	3315147	1629511	149359	3166432	3191161	1134077	1130116	3109	246
Funds: A3	573	1031	998256	634692	2770778	4623753	434759	450121	309922	733294	6444	1933
Liquid cash flow: ((P3+P4+P5)-P2-A3)1 - ((P3+P4+P5)-P2-A3)0	1393		-330551		3293260		169979		408985		-110	

Insolvency problems were revealed in the organizations Hormel Foods/US/ and Steakholder Foods/Israel/ with the values of the liquid cash flow indicator determined on a new methodological basis. In particular, at the Steakholder Foods/Israel/ organization, based on the results of the analysis of table №2, a crisis is revealed in the context of the solvency-liquidity relationship. As for the Hormel Foods/US/ organization, again based on the results of the analysis of table No. 2, there is a pre-crisis situation in relation to solvency-liquidity. In the other four studied organizations, according to the liquid cash flow indicator, a normal solvency level was recorded, which we will try to improve based on the results of the sixth step forecast.

Step 4. The solvency assessment is presented in Table № 4.

Table 4.

Sum assessment of solvency in listed organizations producing food and meat products

		2023	2022	2021	2020	2019
1	Tyson Foods /US/	1.833	1.882	2.112	2.392	2.498
2	Hormel Foods/US/	1.606	1.734	1.81	1.388	1.24
3	JBS SA /Brazil/	4.711	4.906	4.18	4.365	4.538
4	Pilgrim's Pride /US/	3.625	3.76	3.112	3.078	3.224
5	Beyond Meat /US/	-4.11	11.066	-0.001	0.193	0.887
6	Steakholder Foods Israel	-3.512	-5.822	-9.885	-0.293	

The sum assessment of solvency, according to the mathematical trend, received the highest value in the organization Tyson Foods /US/: $R_2 = 0.95$. Pilgrim's Pride /US/: $R_2 = 0.56$ and Hormel Foods/US/: $R_2 = 0.51$ were relatively stable from the point of view of solvency. The pre-crisis state of solvency according to the monetary assessment was recorded in JBS SA /Brazil/: $R_2 = 0.24$ organization, and the crisis state in Steakholder Foods Israel $R_2 = 0.032$ and Tyson Foods /US/ $R_2 = 0.0006$ organizations. It should be noted that the Steakholder Foods Israel organization is very poor in terms of financial solvency.

By combining the results of the third step, the SteakholderFoods Israel organization is in a critical state of solvency.

Step 5. Calculations revealing the correlation between the liquidity ratio determined in the second step and the solvency sum estimate determined in the fourth step and the risk (standard deviation/average size) are presented in table №5.

Table 5.

Correlation and risk between the liquidity ratio and the solvency ratio in listed companies producing food and meat products

		Correlation coefficient	Risk K current liquidity	Avereg	STDEV.P	Risk Suma Solvency	Avereg	STDEV.P
1	Tyson Foods /US/	-0.143	0.143	1.552	0.223	0.124	2.143	0.266
2	Hormel Foods/US/	-0.083	0.174	2.100	0.365	0.137	1.556	0.213
3	JBS SA /Brazil/	-0.252	0.072	1.500	0.109	0.056	4.540	0.254
4	Pilgrim's Pride /US/	-0.629	0.072	1.538	0.111	0.083	3.360	0.279
5	Beyond Meat /US/	0.549	0.397	7.090	2.816	3.139	1.607	5.045
6	Steakholder Foods Israel	-0.675	0.663	4.394	2.914	-0.716	-4.878	3.495

According to the results of the assessment of the fifth step, a noticeable negative relationship between solvency and liquidity was recorded in Pilgrim's Pride /US/, Beyond Meat /US/ and Steakholder Foods Israel/ organizations. In Tyson Foods /US/, Hormel Foods /US/ and JBS SA /Brazil/, there is a weak correlation between the liquidity ratio and the solvency ratio. In terms of the liquidity factor, the risk in the studied organizations was manageable: RiskK current liquidity<1. As for the monetary assessment of solvency, organizations Beyond Meat /US/ and Steakholder Foods Israel/ were assessed as risky.

Step 6. Changes in actual and predicted values are presented in Table No. 6.

Table 6.

Changes in the actual and forecasted values of the shares of the main components of liabilities and the components of current assets

	Tyson Foods/ US/		Hormel Foods/US/		JBS SA/Brazil/		Pilgrim's Pride/US/		Beyond Meat/US/		Steakholder Foods/Israel/	
	30.09.2023	30.09.2022	31.10.2022	31.10.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021
P1	15.90	19.34	-1.31	8.75	-4.61	0.38	2.25	0.49	-55.37	-37.22	11.50	27.35
P2	4.20	-19.37	7.83	-2.65	5.68	-1.80	-12.50	7.04	66.04	57.28	-22.48	-24.08
P3	-30.61	-2.30	-8.56	-8.49	-9.94	-7.60	3.68	-15.15	-12.23	-12.64	11.06	-2.51
A1	-20.18	-27.92	-26.40	-27.99	-18.69	-26.50	-21.20	-23.21	-21.80	-11.34	-20.85	-44.90
A2	-18.93	-18.76	-1.92	-13.29	-7.58	-18.54	7.48	-16.02	-1.64	-16.58	-30.01	-32.69
A3	-6.54	-0.69	1.12	1.48	4.39	6.81	-1.11	0.97	26.27	51.27	34.53	31.36
A4	-13.77	1.26	-14.43	-4.14	-6.62	-7.95	-12.41	2.53	15.07	-3.56	-1.58	-1.58
Y1	-1.27	0.96	-1.43	-1.12	-0.35	-1.94	-0.90	-1.49	1.02	-0.87	1.55	0.56
Y2	-43.16	-25.86	-18.95	-25.16	1.53	-1.54	-0.91	-1.58	-307.37	422.92	0.46	-0.77

Note that in the studied organizations, the values of input variables Y1, Y2 suggested by the results of three-step prediction of the model are either close to the actual values, or have undergone a certain improvement trend.

Based on the best option, we have presented the results of the machine learning model prediction of the capital structure in table №7.

Table 7.

Predicted values (%) of current asset and liability component shares in listed organizations producing food and meat products, according to the best option

	Tyson Foods/ US/		Hormel Foods/US/		JBS SA/Brazil/		Pilgrim's Pride/US/		Beyond Meat/US/		Steakholder Foods/Israel/	
	30.09.2023	30.09.2022	31.10.2022	31.10.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021
P1- Share Holder Equity	34.46	34.46	57.97	46.21	28.54	22.7	28.58	28.56	36.21	46.83	39.97	65.19
P2-Long Term Debt	16.80	40.72	16.9	28.76	34.74	40.72	46.71	28.76	40.72	24.65	42.78	24.69
P3 -Total Current Liabilities	48.54	16.73	19.63	19.64	36.45	36.48	24.09	41.97	19.37	19.47	17.17	9.36
A1-Inventory	34.88	42.90	38.89	40.89	36.88	42.9	42.7	40.89	38.89	28.87	20.85	44.9
A2-Receivables	25.76	25.76	8.05	19.86	19.86	29.69	6.09	27.72	4.12	19.76	31.66	39.53
A3-Cash on Hand	8.12	3.49	6.38	3.52	2.48	5.23	5.8	4.08	2.91	1.89	7.54	16.18
A4-Pre-Paid Expenses +Other Current Assets	14.72	0.12	14.72	4.5	7.42	8.88	14.69	0.14	4.5	5.96	1.58	1.58
Y ₁ - ((Own current assets/current assets)*100)	26.764	43.871	60.919	53.102	30.868	30.665	34.856	29.171	86.468	91.919	37.675	86.836
Y ₂ -((Own current assets/equity)*100)	55.34	47.65	47.65	47.119	47.119	51.985	47.225	36.927	46.707	300.019	34.933	52.136

Source: (MacroTrends, s/f).

According to the results of the forecast, Hormel Foods/US/: 2023, JBS SA/Brazil/2023, Beyond Meat/US/ and 2023 and 2022, Steakholder Foods/Israel/: 2023 had a problem of equity capital.

According to the predictive results of the model, it is recommended to reduce the P3 component in 2023 in all six studied organizations.

The reduction of the P2 component in the 2023 model was considered appropriate by Tyson Foods/US/, Hormel Foods/US/, JBS SA/Brazil/, Beyond Meat/US/. In Steakholder Foods/Israel/ organization, from the point of view of prioritizing the current solvency, the model proposed the addition of the P2 component.

Regarding the main components of current assets, the need to change the proportions of stocks (A1), trade receivables (A2) and cash and their equivalents (A3) was recorded. Basically, the optimization of cash flows in food and meat producing organizations is recorded as a problem of primary regulation in connection with solvency-liquidity.

Note also that due to the specifics of their technological chain, increasing the efficiency of inventory control is also considered a significant factor in the solvency-liquidity link.

Step 7. Prediction results. Based on the results of the sixth step for the studied food and meat producing organizations, the predicted values of the liquidity ratio, solvency sum assessment and liquid cash flow index are presented in table № 8.

Table 8.

Forecast results of liquidity ratio, solvency assessment and liquid cash flow index in listed food and meat producing organizations/2023/

		K current liquidity	Suma Solvency	Liquid cash flow
1	Tyson Foods /US/	0.49	2.229	873000
2	Hormel Foods/US/	1.25	1.522	-191710
3	JBS SA /Brazil/	1.05	4.073	777000
4	Pilgrim's Pride /US/	1.75	3.849	712100
5	Beyond Meat /US/	2.95	4.723	248600
6	Steakholder Foods Israel	-	-1.923	0.763

The forecast data presented in Table No. 8 document that there have been significant changes in the solvency-liquidity relationship in terms of selected indicators. In particular, the decrease in the values of the liquidity ratio determined by our proposed adjustment contributed to the improvement of the solvency position. In all five organizations (Calculations were not performed for Steakholder Foods /Israel/ due to lack of necessary data), the liquidity ratio values decreased somewhat in accordance with the best-case projected capital structure. In this sense, it becomes possible to use the liquid reserves more rationally to solve the solvency problem.

From the perspective of monetary assessment of solvency, it was most effective in Tyson Foods /US/ and Beyond Meat /US/.

The predicted values of the sum assessment of solvency in the studied organizations Hormel Foods/US/, JBS SA /Brazil/ and Pilgrim's Pride /US/ are very close to the actual values.

The concept of management of internal or external financial relations adopted in a specific commercial organization must correspond to the approved charter and the nature of strategic goals. As the main goals of forming the financial policy and management mechanism, obtaining the maximum profit by strengthening competitive positions in the market and, as much as possible, preventing threats to the development of the organization, in particular, the risk of insolvency and the possible risk of bankruptcy, are emphasized.

In terms of the Liquid cash flow index, the values of default liabilities and current assets components for organizations have definitely contributed to the increase of the solvency level, which is an important achievement in the solvency-liquidity relationship.

In order to solve the existing financial problems in the organizations, it is very necessary to improve the efficiency of working capital management, to carry out mandatory monitoring of liquidity in the context of the connection with other components of the financial situation through newly developed systems, which will make it possible to avoid new financial difficulties to a certain extent and to develop a realistic, accurate financial strategy for development.

Conclusion

In the course of the research, we proposed a new methodological solution for evaluating the solvency-liquidity relationship, which were considered in the context of the direct relationship between increasing the level of solvency by forecasting the capital structure, using liquid reserves, and allocating funds more rationally.

Effective management of solvency-liquidity relationship in food and meat exporting organizations requires multi-faceted and in-depth study, which is essential, especially in terms of capital structure forecasting solutions.

- The formula (2) proposed by us makes it possible to identify the effect of the change in the income from the sale on the value of the current liquidity ratio of the organization. In the proposed formula, at first glance, it seems that the amount of net income from sales cannot affect the ratio of $\frac{KCLT}{KCAT}$, because in this case, the net income from sales participates in the calculations both in the denominator and in the numerator. The question of whether the net income from the sale affects the change in the growth rates of current liabilities and current assets is quite controversial; it is difficult to give an unequivocal answer to it, because the solution of this problem mainly depends on the financial policy implemented by the organization.
- If, in practice, in the case of changes in the net income from the sale, $T_{CA}=T_{CL}$, then there will be no impact on the value of the current liquidity ratio, which will be determined only as the ratio of current liabilities and current assets turnover ratios. However, if $T_{CL}>T_{CA}$, then the value of the current liquidity ratio will decrease, and vice versa, if $T_{CL}<T_{CA}$, then the value of the current liquidity ratio will increase.
- In practice, if the share of fixed net proceeds in current assets is constant and the share of current liabilities in net proceeds is also constant, then there will be no change in the value of the current liquidity ratio in case of any change in net proceeds. In practice, the dynamic change of the mentioned variables will lead to the impact of the change in the net income from the sale on the value of the current liquidity ratio.
- The current liquidity index determined by the approach proposed in the article enables, when developing the financial policy, to pay special attention to the solvency ratios depending on the importance of income, in this case, to the modified version of the current liquidity ratio. Solvency directly depends on the ratio of turnover ratios, and an additional multiplicative result in this case is shown by the growth rates of current assets and current liabilities, therefore, the views according to which different scales of economic activity are expressed at different levels of income of

organizations are considered by financial managers to be only financial an attempt to justify the difficulties.

- From the point of view of performance management, the best approach was in the organizations JBS SA /Brazil/ and Pilgrim's Pride /US/.
- Liquid cash flow) indicated insolvency problems in Hormel Foods/US/ and Steakholder Foods/Israel/ organizations.
- In relation to solvency-liquidity, a noticeable negative correlation was recorded in Pilgrim's Pride /US, Beyond Meat /US/ and Steakholder Foods Israel/ organizations. The revealed phenomenon proves that very often organizations face pre-crisis problems due to neglecting the solvency-liquidity link.
- Summary of evaluation findings and recommendations
- During the research, we proposed new methodological solutions for assessing the solvency-liquidity relationship, which were considered in the context of the direct connection of raising the level of payment by forecasting the capital structure, using liquid reserves, allocating funds more rationally.
- According to the results of the model forecast, a policy to reduce the P3 component of total current liabilities in 2023 was proposed in all six organizations studied, which will enable organizations to strengthen their own current assets and move smooth current solvency to the long-term sector.
- Long-term debt relief issues: reduction in P2 component in 2023 the model was considered appropriate in Tyson Foods/US/, Hormel Foods/US/, JBS SA/Brazil/, Beyond Meat/US/ organizations.
- Regarding the main components of current assets, we suggest changing the proportions of inventories (A1), trade receivables (A2) and cash and their equivalents (A3) within the framework of the forecasted values. It provides an opportunity to use liquid reserves more rationally to solve the problem of solvency.

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Philosophical frontiers of space exploration: pro et contra

Fronteras filosóficas de la exploración Espacial: pro y contra

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Abstract

We have been living in the “cosmic era” since 1957. Mankind has learned to utilize the near-Earth space for its practical needs. But the rest of outer space is still a mystery to us. The objective of this study is to clarify several main questions: why should humanity explore the extraterrestrial space? what dividends and obstacles await us on this path? which should be ethical and legal aspects for the outer space exploration? In our research we used several methodological instruments: axiological approach, dialectical method, systematic approach, comparative statistical analysis. The article studies general humanitarian dimensions of the problem of space exploration, socio-economic aspects, incentives and technological limits in development of the nearest space objects. A special place is given to research of juridical collisions and legislative gaps in contemporary space law, and ethical

Resumen

Vivimos en la «era cósmica» desde 1957. La humanidad ha aprendido a utilizar el espacio cercano a la Tierra para sus necesidades prácticas. Pero el resto del espacio exterior sigue siendo un misterio para nosotros. El objetivo de este estudio es aclarar varias cuestiones principales: ¿por qué debe la humanidad explorar el espacio extraterrestre? ¿qué dividendos y obstáculos nos esperan en este trayecto? ¿cuáles deben ser los aspectos éticos y jurídicos de la exploración del espacio ultraterrestre? En nuestra investigación utilizamos varios instrumentos metodológicos: enfoque axiológico, método dialéctico, enfoque sistemático, y análisis estadístico comparativo. El artículo estudia las dimensiones humanitarias generales del problema de la exploración del espacio exterior, y los aspectos socioeconómicos, incentivos y límites tecnológicos en la explotación de los objetos cósmicos más cercanos. Se concede

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imperatives in a process of outer space exploration.

Keywords: space exploration, global cooperation, extraterrestrial territories, space law, ethics.

un lugar especial a la investigación de las colisiones jurídicas y las brechas legislativas en el derecho espacial contemporáneo, e imperativos éticos en el proceso de exploración del espacio exterior.

Palabras clave: exploración del espacio, cooperación global, territorios extraterrestres, derecho espacial, ética.

Introduction

Not so long ago, all those interested had a unique opportunity to see an "infrared panorama" of the center of our Milky Way galaxy, including such curious areas as the Quintuplet Cluster, the Arches Cluster (one of the densest star clusters in our Galaxy) and, of course, the area in which the observer is supposed to see the accretion disk formed by the supermassive black hole Sagittarius A* (Murchikova et al., 2019: 83). The image, obtained by combining observations from the SOFIA stratospheric observatory and the American and European "Spitzer" and "Herschel" space telescopes, was first published in 2020 on NASA's website (NASA, 2022). This panorama, spanning a distance of more than 600 light-years, shows details of the center of our Galaxy hidden in dense swirls of gas and dust (EHT, 2022), opening the door to future research on how massive stars form and what fuels the supermassive black hole at the galactic core.

This image, as we can see, became possible 63 years after the beginning of the "space age". During this time, extraterrestrial space has become not only an object of scientific interest, but also a zone for the realization of geopolitical ambitions of the leading powers, and a capital-intensive part of the Earth's economy. The *scientific community* focuses on fundamental research, while *states* regard space exploration as quite utilitarian.

We should draw some attention to existential, epistemological and symbolic themes, in order to underline the connection between the image of the center of the Milky Way galaxy and philosophical reflections. Our limited ability to observe the galactic center (as we cannot see it directly, through optics) demonstrates the limits of human knowledge and perception. This can be tied to *epistemological debates* in philosophy, such as whether true sensual knowledge is more accurate or important compared to theoretical constructs, and how these different types of knowledge influences our understanding of reality. This invites reflection on what it means to know and understand when faced with something as complex and distant as the galactic core. In addition, the center of the Milky Way can be a symbol of both the awe and insignificance experienced by humanity in the face of the vast Universe. This resonates with *existentialist ideas* about finding meaning in an immense, indifferent cosmos. The sheer scale and mysterious nature of the galactic center can reinforce arguments about the human search for new purposes amid cosmic vastness.

Simultaneously, we can try to use the imagery of the Milky Way center as a kind of *metaphor* for human inquiry: the center of the Milky Way galaxy, with its dense star clusters, supermassive black hole (Sagittarius A*), and cosmic dust, symbolizes the profound mysteries of existence. This implies philosophical questions about the nature of the Universe, our place in it, possible expanding of mass consciousness, and the limits of human understanding. For instance, just as astronomers struggle to observe the mentioned area due to cosmic obstructions, philosophers grapple with concepts that are difficult to fully grasp or express. Along the same lines, there are *quite utilitarian* interests and controversies that we will focus on in this research.

How many spacecraft have been launched by mankind as of today? Their number, according to the United Nations Office for Outer Space Affairs (UNOOSA, 2024), is 19124 objects as of September 13, 2024. The dynamics of the increase of such objects in near-Earth space is very remarkable here. Thus, when this study was just beginning (in November 2019), the number of space objects launched by mankind was 8836 (between October 1957 and November 2019), and as of July 2020 it was already 9611 objects (according to the same source). From this statistics we can see that only for the last 4 years about 9500 objects have been launched, which is comparable to the total number of space objects deployed by mankind for the previous 63 years (1957-2020). All these objects belong (in different ratio) to about 100 countries and their private companies, but only about 10 countries of the world possess the whole complex of necessary technologies, infrastructure and specialists, by whose efforts all these items were put into space (using more than 5500 launch vehicles). As of today, the total launch mass of all used launch vehicles has exceeded 2

million tons. The most launches naturally occur in recent years (456 – in 2017, 453 – in 2018, 580 launches in 2019). For the incomplete year 2024, it has already been launched 1635 satellites (mostly 'Starlink') between January 1 and September 13, 2024. But what can these statistics tell us?

The main **purpose** of this article is to clarify several questions: *why* should humanity explore extraterrestrial space (what dividends and risks await us on this path)? *where* are the *key consensus points*, the achievement of which will be the determining preconditions for humanity to go beyond the current limits of inhabited space and to establish itself in the outside world? (and what nuances are involved in this process).

Literature Review

The current knowledge on the outer space exploration matters is presented in some publications and research projects. Among these works, we would acknowledge those focused on different groups of issues: resource-centered arguments, existential and anthropological reasons to explore the extraterrestrial bodies, political and societal ties, space and energy technologies advancements, international legal collisions, etc.

The report titled "The Helium-3 shortage: supply, demand, and options for Congress" (Shea & Morgan, 2010) addresses the critical shortage of helium-3, a rare isotope with significant applications in national security, medical imaging, and industrial processes. It outlines the causes of the shortage, primarily linked to the decline in domestic production following the cessation of tritium production for nuclear weapons, and a surge in demand post-9/11 for radiation detection technologies. The report discusses federal responses to the crisis, including rationing schemes developed by an interagency committee and ongoing investigations into alternative sources of helium-3. These sources may include extracting helium-3 from nuclear reactors or recycling existing supplies. Additionally, it highlights that congressional oversight is evolving as lawmakers begin to explore options for increasing supply, reducing demand, and improving allocation processes to address the growing disparity between supply and demand.

The article "Lunar Helium-3 Fuel for Nuclear Fusion: Technology, Economics, and Resources" (Simko & Gray, 2014) discusses the potential of helium-3, an isotope found abundantly on the Moon, as a fuel source for thermonuclear fusion. Helium-3 is considered advantageous for fusion energy production because it is non-radioactive and could result in less harmful waste compared to traditional nuclear fuels, making it a cleaner energy option. The Moon's surface has accumulated helium-3 over billions of years due to solar wind, which poses an opportunity for mining this resource. The article also examines the economic feasibility of extracting helium-3 from the lunar regolith and transporting it back to Earth. It suggests that with advancements in fusion technology and mining techniques, helium-3 could become a competitive energy source, potentially leading to significant reductions in electricity costs. However, the challenges of developing the necessary infrastructure for lunar mining and the high costs associated with space operations remain critical hurdles.

The article "The philosophy of the cosmos as the new universal philosophical teaching about being" (Bazaluk & Kharchenko, 2018) presents a specific philosophical framework that seeks to explore the nature of existence through the lens of cosmology. Key themes include: delving into fundamental questions about being, existence, and the nature of reality, suggesting that insights from cosmology can enrich our understanding of these concepts; possible anthropological niche expansion; merging scientific insights with philosophical inquiry (this approach aims to create a comprehensive worldview that reflects both empirical observations and metaphysical considerations).

The study "Chinese perspectives in the "Space Race" through the prism of global scientific and technological leadership" (Svyrydenko & Stovpets, 2020) examines China's ambitions and strategies in the contemporary space exploration, contrasting them with established 'space powers'. It highlights how China's space program serves as a vehicle for achieving national goals, including technological advancement and international prestige, encapsulated in the concept of the "Chinese Dream". The analysis situates China's space endeavors within the broader geopolitical landscape, emphasizing its aspirations to assert itself as a leader in global science and technology. The paper provides a brief history of China's space achievements, showcasing milestones that reflect its growing capabilities and ambitions. Philosophical underpinnings of China's approach to space exploration are linked to national aspirations for global influence.

Today, there is no doubt that China is among the new world leaders in space exploration (being the next after the USA). But a logical question arises, what civilizational qualities have brought this country to the

leading position? The article "Sinitic civilization's worldview features and their system-forming role in the complex of social relations in modern China" (Stovpets, 2020) encompasses a complex set of beliefs and values that have historically shaped social relations in modern China. This worldview is characterized by several key features, including a strong emphasis on collectivism, diligence, and the importance of state paternalism and social hierarchy. These elements contribute to the societal fabric, influencing everything: from governance to interpersonal relationships, and of course China's external positioning as a technological leader, with *its own space program*. In contemporary China, the Sinitic worldview plays a system-forming role by reinforcing social cohesion and stability, which is crucial in a rapidly changing world. The integration of traditional values with modern practices and technological advancements reflects the resilience of this worldview, demonstrating its adaptability in addressing contemporary challenges while maintaining cultural continuity. Simultaneously, there is an obvious Chinese commitment to expanding their global influence by pushing forward in the field of advanced scientific research. Cosmos is among these undoubted priorities. Overall, the study presents a comprehensive view of how China perceives its role in the evolving dynamics of global leadership and competition. Such cross-cultural insights are useful for studying national public opinion, illustrating how societal values oppose or align with space exploration efforts.

The article "Educational marketing as a basis for the development of modern Ukrainian society and the state" (Borinshtein et al., 2022) focuses on enhancing educational marketing as a crucial component for fostering social-economic development of Ukraine. It argues that effective educational marketing strategies can significantly strengthen the intellectual potential of Ukrainian society and support the state's development goals, enshrined in sectoral industries (e.g. aerospace construction, rocket science, microchip manufacturing, drone production, and polytechnic studies). The research also identifies various challenges faced by the contemporary education system: infrastructural, financial, and organizational issues, particularly in the face of ongoing higher education reform. It proposes a renewed educational marketing strategy tailored to address these challenges, emphasizing the need for higher education institutions to cultivate marketing skills among students to improve employability and competitiveness in both national and global contexts. The study also highlights the importance of aligning educational services with market demands to ensure that graduates possess the necessary competencies for successful integration into society and the labor market. Societal investments into the educational realm, and changing approaches to educational marketing may raise the level of existing technological sectors, *preserving Ukraine's place* among "spacefaring nations".

The issues of rivalry between the advanced powers for extraterrestrial resources (in particular, for helium-3 contained in the lunar regolith) are directly related to the success of the ITER project. In the fusion research environment, reports of constant shifts and delays in the completion of ITER construction, not to mention exceeding the initial budget, have drawn attention (Banks, 2024). ITER, or International Thermonuclear Experimental Reactor, is a toroidal facility for magnetic confinement of plasma to achieve the conditions necessary for controlled thermonuclear fusion to proceed. ITER's mission is to demonstrate *the feasibility of commercial use* of a fusion reaction, and to address the physical and engineering challenges that encounter along the way. And once all these problems are solved, there will be serious competition between leading space powers for the priority right to extract helium-3 from the lunar soil. This will require more detailed geopolitical agreements, as well as clarification of existing norms of international space law.

We will further refer to these and other related sources in subsequent sections of this study.

Methodology

In our research we used several methodological instruments: axiological approach, dialectical method, systematic approach, comparative statistical analysis.

The axiological approach (when applied to space exploration issues) focuses on understanding the values and ethics underlying 'earthly relations' between nations, states, and societies involved in the 'space race'. It helps to identify and analyze the values inherent in arguments for and against space exploration (e.g. advancements in fundamental science, human curiosity, the pursuit of knowledge, raising sustainability, sharing interests of resource allocation, exacerbation of technological and geopolitical competition). It also makes us to reflect on questions of balance between competing values such as the potential benefits to humanity (e.g. technological & scientific progress, future colonization of the nearest celestial bodies) versus potential ethical and natural concerns (e.g. the risk of ecological harm to extraterrestrial environments, and

the prioritization of space exploration over urgent earthly human needs). After all, the axiological approach gives us the possibility to evaluate the moral and philosophical implications of space exploration, considering questions like whether resources should be used for exploration of extraterrestrial realms, or addressing Earth's challenges first.

The dialectical method (as it involves the exploration of ideas through dialogue, aiming to understand disagreements and reach a consensus) helps us to weigh up the arguments in favor of tenacious space exploration (like ensuring humanity's long-term survival due to additional energy resources, mastering an alternative living space, advancing cosmic science & aerospace engineering), and counterarguments against it (e.g. too high costs of space missions, increasing unresolved social issues on Earth, the risk of weaponizing of the near-Earth space). Being engaged in a reasoned exchange, proponents and critics may challenge each other's views, exposing underlying assumptions and outlining areas of agreement on fair rules regarding space exploration.

The systematic approach in our research gives the opportunity to organize complex information from the realm of astrophysical research - into structured frameworks for comprehensive analysis. Inside the systematic approach, we should mark the *holistic analysis*, which enables us to look at space exploration process as a system interconnected with technological, social, economic, legal, ethical and philosophical dimensions. This approach considers the meaning of acting interrelationships: how the aforementioned dimensions interact, in particular, which is the correlation between the funding of space programs and societal priorities, what is the true impact of space technology on global progress, extraterrestrial ecology, international safety, geopolitical stability on Earth, and so on.

While less philosophical in its nature, *comparative statistical analysis* provides us with valuable empirical insights relevant to the dynamics of space exploration. Using the method of data-driven evaluation, comparative statistical analysis helps us to compare affordable public information related to investments in space exploration versus outcomes (e.g. scientific advancements, technological spin-offs). By analyzing how countries with active space programs fare compared to those without (in terms of economic growth or technological development), we can infer their potential benefits and drawbacks. Finally, the results of use of such an instrument as the comparative statistical analysis, in this research, are visualized as the table and the diagram describing the UNOOSA statistics for the objects launched by mankind into outer space between October 1957 & September 2024. It makes us see how the priorities and aerospace capabilities of mankind were changing over time:

Table1.
Objects launched into space in the period of 1957-2024

Period	Objects Launched	Change from Previous Period
Oct 1957 – Dec 2016	7347	-
Oct 1957 – Dec 2017	7803	+456
Oct 1957 – Dec 2018	8256	+453
Oct 1957 – Nov 2019	8836	+580
Oct 1957 – Jul 2020	9611	+775
Oct 1957 – Sep 2024	19124	+9513

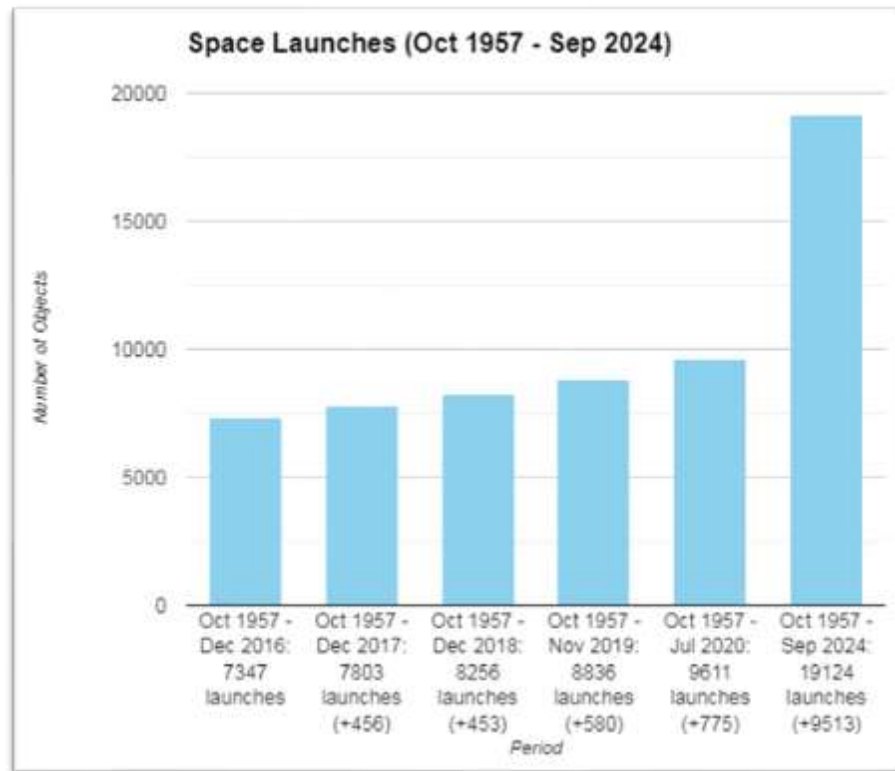


Chart 1. The description of space launches dynamics between 1957-2024

Results and Discussion

Limitations of the study in respect of Space Exploration

Despite the significant advancements made for the last decade in astrophysical research, there are inherent limitations that hamper related studies and impede the movement of progress in space exploration. Among other issues, there are those which constrain the scope and depth of any study related to the center of the Milky Way galaxy. These limitations can impact our understanding and interpretation of data, shaping philosophical and scientific discussions alike. Here we are talking about technological constraints, physical barriers, data interpretation challenges, resource and funding limitations, and theoretical gaps in fundamental science.

Technological constraints are mainly connected with the fact that current space research relies on telescopes and space probes with certain technical limits. Instruments such as the Hubble Space Telescope or the more advanced James Webb Space Telescope have significantly improved our capacity to observe 'deep space'. However, their resolutions and sensitivities still fall short when capturing intricate details of the densely packed and obscured regions at the galactic center. The presence of cosmic dust and gas, along with immense distances, challenges our ability to obtain clear, unambiguous images and data.

Physical barriers are naturally conditioned by the fact that the core of the Milky Way galaxy is located approximately 26,000 light-years away from Earth (Abuter et al., 2019) and is surrounded by interstellar dust clouds that block visible light. While infrared and radio wave technology allows us to partially bypass these obstacles, this methodology still has its limitations. The complex interplay between various wavelengths, interference, and the need for precise calibration all pose significant hurdles, potentially skewing or limiting the correct data we can gather.

Data interpretation challenges are due to the situation that even when various data can be collected, interpreting it accurately requires overcoming inherent ambiguities. High-energy phenomena, such as those produced by the supermassive black hole Sagittarius A* and surrounding stellar objects, create complex patterns of electromagnetic radiation. Differentiating between overlapping signals and disentangling noise

from meaningful information is a significant task that can lead to misinterpretations or uncertainties in the study's conclusions.

Resource and funding limitations are also obvious, as Space research is often constrained by budgetary and logistical challenges. Funding for space missions and modern observatories must compete with various scientific and non-scientific priorities, leading to potential compromises in the comprehensiveness of data collection and analysis. This huge financial pressure can hinder the ability to conduct repeated or extended studies that might otherwise yield more thorough results.

Theoretical gaps in contemporary astrophysical science are an equally significant obstacle. Even with the data available, our theoretical models of how galactic centers behave remain incomplete. Still, many of them are just models and assumptions. In addition, the extreme gravitational and electromagnetic conditions found in the heart of the Milky Way push the boundaries of current astrophysical theories, such as general relativity and quantum mechanics. This also limits our ability to predict and fully understand the nature of phenomena observed within the mentioned cosmic region.

General humanitarian dimensions of the problem of space exploration

Mankind (at least its advanced part) has long been obsessed with the idea of unraveling the mysteries of the cosmos. But, as on all other key issues that exist in science, in sociocultural practice, in life generally, there is no consensus neither on the prospects, goals and objectives of so-called space activities, nor on the tools and technologies for their realization, nor on the limits of admissibility of human intervention in the existential mysteries of the Universe.

Philosophy poses a number of questions to all mankind, that implicitly contains such a question, the answer to which predetermines the whole further strategy in relation to the problem under study. Using Aristotle's terminology, it is necessary to designate "the final cause", a "target reason". After that, our question (in projection to space activity) can sound as follows: is it *necessary* to explore space at all – not just to study it, but to practically exploit it, attempting to colonize the nearest celestial bodies? And if "yes", then *for what* do we need (with such difficulties) to go beyond the limits of our familiar terrestrial world?

It is evident that, firstly, we have not yet unlocked all the codes and mysteries of *our* planet. And we are still far from exhausting its natural resources. Moreover, the invention of new energy sources, land recultivation, recycling and other smart technologies are pushing these exhaustion threats even further away. Secondly, different civilizations of the Earth have not yet learned to live in peace and harmony, without wars, violence, extortion and mutual intimidation, not to mention the enormous socio-economic and cultural stratification of mankind. So, maybe it would be more expedient to invest funds and common efforts in establishing wellbeing *here* on Earth?

Proponents of active space exploration counter-argue: the keys to the secrets of the Earth, to unraveling the mysteries of the origin of life in general (and man as a special case) lie *beyond* our planet, in the Universe. Therefore, the study and gradual exploration of space seems to bring several useful effects at once: it increases our cognitive abilities, it can contribute to the further development of *noosphere* (and consolidation of mankind on *this* basis), it expands the experimental field of science, contributes to the qualitative growth of empirical arrays of knowledge about outer space and cosmic bodies, it may have a significant resource potential and can serve as a kind of alternative to Earth's natural resources in case of their exhaustion, etc. All these are, more or less, *pragmatic* aspects of space activities.

But there are also *metaphysical* aspects in people's aspiration to explore any extraterrestrial spaces. After all, by going beyond the limits of the present inhabited space, man is as if attempting to encroach upon the pre-established "earthly order of things", and is trying to prove to himself the ability to build (in the literal sense) new worlds outside our traditional Earthly abode. Beyond this abode, there are new opportunities (for the beginning, at least those material resources, which are rare on Earth, but are abundant in the lunar soil, that will be discussed in more detail below).

At the same time, other kinds of questions arise here. For example, how "mature" is our contemporary civilization? And if we accept the pattern that an "over-mature" civilization expands its resource basis to the maximum, won't it happen that this new "cosmic" spiral in the flourishing of technical genius will be

the beginning of a further decline of civilization? Some related aspects on possible future scenarios of the human development were studied before (Stovpets et al., 2023) in the light of digital technologies surge.

Opponents (in philosophy) to an active exploration of space do not share any optimistic belief in the co-evolution of the biosphere and sociosphere; they are rather skeptical about further development of such a co-evolution process, which would make *the prospect of colonization of extraterrestrial spaces* just a little more realistic. These doubts are caused, among other things, by the realization of the obvious immeasurability of the scale of human civilization - with the boundlessness of space and time, with the cosmic expanses of the Universe.

But if we accept the aforementioned *prospect* as highly probable, then our former “anthropic niche” is significantly expanded. The process of reconstructing the “human niche” will need to be understood in an evolutionary context, taking into account the synthesis of ecological, biological and social landscapes, which will no longer be appropriate to consider as separate spheres (Fuentes, 2015: 305).

Legal issues in the field of space exploration have as their main prerequisite a general mistrust in the international public consciousness that the exploration of near-Earth space will have exclusively *peaceful* purposes, and will pursue only *pure scientific* and *common humanitarian* interests. This mistrust stems from the entire previous history of human civilization, and relies upon various geopolitical fears and uncertainties. This global disbelief is reflected even in the very names of the existing legal acts regulating the procedure of so-called space activities. We will talk separately about the legislative sources, which, according to the general idea, should regulate the use of extraterrestrial space and safeguard space activities. They contain a variety of contradictory points.

The *socio-economic prospects* for active space exploration are still unclear. Science will undoubtedly benefit from any research in this area. But will the world economy benefit? And national economies? After all, national ambitions and geopolitical rivalry often lead to the depletion of state budgets. Especially if an “arms race” starts (as it has already happened many times) in an attempt to gain strategic dominance, and ensure economic and military-political hegemony, including through the militarization of near-Earth space. Meanwhile, economic strategies of many mighty nations directly or indirectly mention *space exploration* as a promising way of their own technological development and building mutually beneficial international cooperation. Moreover, in the *worldview* of some civilizations (Stovpets, 2020) there is a commitment to expanding their global influence by pushing forward in the field of advanced scientific research. Cosmos is among these undoubted priorities.

Some nations succeed (Svyrydenko & Stovpets, 2020), and the quality of their people's life may increase, while others do not, and then there is a large risk of social crises with poorly predictable consequences. In the context of globality, this situation is (to a different extent) *harmful to all humans*. Besides, today there are *no guarantees* that the development of extraterrestrial resources - even on the space bodies closest to the Earth - can be at least somewhat profitable, for objective reasons (huge distances, mining conditions, lack of technology or extreme costliness of technologies for the extraction of these resources and their delivery to the Earth, as well as their safety for the Earth's biosphere, and other problems that we *may not even be aware of yet*).

Although in general it is still clear that the *colonization* of other planets, in terms of its feasibility at current stage of development of our civilization, is on a par with the search for eternal life. This ideology is cultivated by the so-called “immortalist” congregation, which sets the task of achieving artificial immortality. Transhumanist discourse is *related* to the theme of exploration of extraterrestrial spaces. Since, probably, only such a radical expansion of the limits of technology interference in human nature - as transhumanists propose - in case of success, will allow us to talk seriously about the possibility of *colonization* of the nearest space bodies. A more detailed analysis of the problems of transhumanism (including reflections on the doctrines of creation, enhancement, and immortality) is reflected in other publications (Farman, 2013: 740).

It seems to us that the above arguments and counterarguments regarding active *space exploration* are sufficient justification for the relevance of this study. However, the existing contradictions encourage us to reveal in more detail the ethical, legal, political, socio-economic, technological facets of the nowadays space exploration activities of mankind, with an attempt to identify the main controversies and possible points of consensus.

Socio-economic aspects of the nearest space objects exploration. Technological limits and incentives to overcome them

Some publications (Carter, 1973; Runcorn & Coleman, 1977), apparently inspired by the incredible progress in near-Earth space research of that era, have suggested that humanity has reached the point beyond which *space exploration* begins. This is particularly true of the Moon, probably the only space object in the solar system that could become an extraterrestrial territory interesting for colonization as early as *this* century.

At the same time, the development of space technology, which had slowed down by the early 1980s, does not allow us to think that space colonization is an easily achievable and, in all cases, reasonable goal. Certainly, due to its proximity to Earth (three days' flight time) and a fairly well-studied landscape, the Moon has long been regarded as the first extraterrestrial territory for the establishment of a human colony. And although back in the last century the Soviet and American lunar exploration programs, being very expensive projects, demonstrated the practical feasibility of flying and landing on the Moon, they significantly tempered the enthusiasm for the immediate establishment of lunar colonies.

Yes, indeed, there are some potential advantages in the exploration of the Moon. We mean its *resource potential*, and the role of a kind of “hub” or “springboard” for long-distance space expeditions, and the possibility (though very much postponed in time) of colonization in the case of critical overpopulation of the Earth, and the creation of a powerful *scientific platform* on the Moon for observations of the so-called “deep cosmos” (i.e. interstellar medium, other galaxies, astronomical radio sources like the Galactic Center, planetary nebulae, supernovae, pulsars, galaxy superclusters, intergalactic space, other matter of the Universe)... For scientists, the lunar base would be a unique place for scientific research in the fields of planetology, astronomy, cosmology, space biology. The study of the *lunar crust* itself would help answer the most important questions about the origin and further evolution of the Solar system, the Earth-Moon system, and the emergence of terrestrial life.

The absence of an atmosphere and lower gravity (six times less than the Earth's) make it possible to build observatories equipped with the latest optical and radio telescopes on the lunar surface. Because of these conditions on the Moon, such telescopes will be able to obtain much more detailed and clearer images of distant areas of the Universe, much more accurate than it is possible on Earth. Due to the absence of the influence of the Earth's atmosphere, the resolution of such a telescope will be 7-10 times higher than that of a similar telescope located on Earth (Spitzer, 1990). At the same time, it would be much easier and cheaper to maintain and modernize such Moon-based observatories than the currently operating *orbital* observatories.

Vacuum and the availability of cheaper solar energy open new horizons in the fields of electronics, metallurgy, metalworking and materials science. In fact, the conditions for metal processing and creation of microelectronic devices *on Earth* are actually less favorable due to the large amount of free oxygen in the atmosphere, which deteriorates the quality of casting and welding, and makes it impossible to obtain ultra-pure alloys and microchip substrates in large volumes. But in the conditions of the Moon this problem is solvable.

It is known that the Moon possesses a variety of minerals, including metals valuable for industry – iron, aluminum, titanium. Currently, the world's leading technological universities are working on methods of industrial production (in lunar conditions) of the metals discovered, by removing them from the *regolith* – the surface layer of loose lunar soil. What is important for a hypothetical lunar base, in 2009 deposits of water ice were found for the first time in the area of the Cabeus crater near the south pole of the Moon (LCROSS, 2009).

But the main attractor among all known lunar resources is an isotope rare on Earth, helium-3, accumulated in the regolith over billions of years as a result of the outflow of helium-hydrogen plasma – ionized particles also known as “solar wind” – from the solar corona. Helium-3 is now considered *the fuel of the future* because it is planned for use in the thermonuclear reactors (fusion reactors) that will probably replace current nuclear reactors. Many studies have been devoted to the prospects of helium-3, in particular: on the potential applications of helium-3 and the main sources of its obtaining today (Shea & Morgan, 2010), on the possible cost of helium-3 under contemporary conditions (Simko & Gray, 2014), on the approximate helium-3 reserves in the lunar regolith (Slyuta et al., 2007), on the selenographic distribution of this

isotope (Schmitt et al., 2017), on some liquefaction technologies enabling the condensation of pure helium-3 (London, 1949 ; Zhelev et al., 2017). So what are the biggest challenges of using *helium-3*, and what are its advantages?

If we ignore the current problem of *feasibility* of controlled thermonuclear reactions in reactors with such fuel, – and the first fusion reactor will not be built before 2034 (Banks, 2024), though the first deuterium plasma is expected to be obtained in 2025 (ITER project, 2016), – the main problem remains the very reality of helium isotope *extraction* from regolith. Based on the above-mentioned studies, the helium-3 concentration in the lunar regolith is about 1 gram per 100 tons. Therefore, to extract *just one ton of this isotope*, at least 100 million tons of lunar soil must be processed in situ! And this is only one of the technological challenges.

Hypothetically, when 1 ton of helium-3 reacts with 0.67 tons of deuterium, this fusion releases energy equivalent to burning 15 million tons of oil (London, 1949, p. 695). The Moon, which has no atmosphere, retains significant amounts of helium-3 in its surface layer, with some estimates ranging from 500 000 tons to 2.5 million tons (Slyuta et al., 2007). If these estimates are correct, then our planet's population could have enough lunar helium-3 resources for about *five millennia* at the current rate of energy consumption (according to maximum calculations). And the most important *environmental aspect* here is that helium-3 does not produce long-lived radioactive waste. Therefore, the problem of their disposal, which is so acute in the operation of nuclear reactors (based on the fission of heavy uranium nuclei) disappears by itself.

However, at present, the technical possibility of the most energy-efficient thermonuclear reaction “deuterium + helium-3” has not been fully studied. The fact is that fusion of nuclei of such isotopes as deuterium, tritium, helium-3, which gives energy yield, is possible only when they are in the state of plasma. And in order for plasma to be stable, it needs a huge temperature, and large values of pressure and density. The main problem of current thermonuclear technologies (realized in experimental reactors) is that *almost all* the energy obtained in the course of a fusion reaction is *spent* to hold the plasma in place (Peacock et al., 1969: 489). For this reason, helium-3 fusion reactors are considered a technology of the distant future.

Another technological challenge will be the creation of a cost-effective transportation system in case the decision to develop the Moon's resources is made. Because sending launch vehicles (boosters) from Earth to the Moon and back is unprofitable; with such costs, extraction of any resources is unlikely to be economically expedient. So, these boosters, together with transportation (cargo) modules, will have to be assembled in Earth orbit. According to some NASA specialists (Rubio & Bowman, 2024), the experience of assembling and operating the International Space Station may be useful here.

But no matter how large the carrying capacity of the transport module, probably to reduce the risk of losing the expensive resource, the mass of each batch of helium-3 extracted on the Moon and transported to Earth will be less than a hundred kilograms, which, at average prices in the global energy sector, is approximately equivalent to 140 million U.S. dollars (Schmitt et al., 2017: 6). In any case, the optimal shipment weight will be determined taking into account not only technical limits, but also the requirements of customers (and the latter will probably take care of *insurance* of possible risks using quite *earthly* legal instruments). The development of such a specific insurance sector is another socio-economically useful effect from the exploitation of the resource base of an extraterrestrial space object.

In addition to all the above-mentioned aspects of extraterrestrial space exploration (technical-technological, socio-economic, private-law aspects) there are unresolved issues of *public-law* nature. The lack of consensus on many of them creates serious obstacles in the peaceful exploration of outer space, and lays the foundations for geopolitical and general humanitarian contradictions in the future, when the exploration of extraterrestrial territories will enter a more intensive phase.

Juridical collisions and legislative gaps in contemporary space law. Ethical imperatives in the process of outer space exploration

The Cosmos and man's place in it have probably been the subjects of reflection at all times of philosophy's development. In any case, we can agree with the thesis that philosophical knowledge, since antiquity, has served as a basis for a holistic worldview, integrating ontological aspects of human existence at the personal, social and cosmic levels (Bazaluk & Kharchenko, 2018: 10). However, jurisprudence (and even such a specific branch as *space law*) thinks in more down-to-earth categories.

In addition to the traditional issues of international space law – prevention of militarization of near-Earth space, prohibition of deployment of nuclear and other weapons of mass destruction in outer space, responsibility of states for the operation of launched space objects, inviolability of property rights to these objects – many other questions arise: what control over territories on other space bodies can be established, and what should be the limits of such control? who owns the resources extracted in extraterrestrial spaces? how to avoid conflicts among states over resources? how to properly organize licensing of space activities (who should carry it out, and what mandatory criteria for granting licenses for the development of extraterrestrial territories should be introduced)? how to protect intellectual property in space (i.e. where is the line between science and commerce)? how to solve the problem of waste disposal, which will inevitably accumulate as further the exploration of extraterrestrial space proceeds? and many other issues that are either insufficiently regulated or unsettled at all.

These questions, for the most part, lie in the practical plane of human existentiality. How they are resolved will determine whether the cosmos becomes a source of new opportunities and future prosperity for all mankind, or additional instrument of influence and world dominance for some polities (and a new threat to the others).

We should say that the global agreement on cosmos (Kopal, 1967) declares freedom of any scientific research of peaceful nature in outer space, and names the basic principles of space activities, however it does not provide for instruments of control over their fulfillment or any system of sanctions for their violation. Although Article II of the Treaty establishes the provision that outer space, including the Moon and other celestial bodies, shall not be subject to national appropriation, whether by claim of sovereignty over them, neither by use or occupation, nor by any other means, but this declaration may in fact conflict with Article VIII of the same treaty. It enshrines that a state-party in the Treaty, whose registry includes an object launched into outer space, retains jurisdiction and control over such an object and over any crew of that object during their stay in outer space, and also on a celestial body.

The ownership rights on cosmic objects launched into outer space, including items delivered or constructed on a celestial body and their component parts, remain inalienable while they do exist in outer space or on a celestial body. This means that in the case of a station built on the Moon with all its facilities, which will remain there for any number of years, it will be recognized the national law of the host state in respect of that Moon-based station. Thus, the host-state sovereignty *de facto* will extend to the entire development territory of a certain lunar site (Bagrov, 2019: 29).

Taking into account the high probability of further activities' intensification of the leading space powers beyond near-Earth space, an Agreement on the activities of states on the Moon and other celestial bodies was elaborated within the framework of the United Nations (United Nations Treaty Series, 1979). It stipulates in more detail the principles of scientific and economic activity on the Moon. In particular, Article 8.1 of the Treaty declares that the participating states may carry out their activities on the exploration and use of the Moon at any place on its surface or subsoil. If we think carefully about it, this provision itself becomes a conflictogenic premise in case the economic activities on the Moon will be intensified.

The point is that there are areas on the surface of the Moon that are of particular interest for the placement of long-term stations in them. These include some mountain peaks in the near-polar regions of the Moon, which according to a number of research studies (Sanderson, 2007; Girish & Aranya, 2012: 371) are almost never shaded. Consequently, it's most favorable to place power plants made of solar panels with batteries in mentioned areas. Also interesting are the locations of natural cavities under the surface of the Moon, where it is possible to place manned stations without a risk of exposing them to cosmic radiation. The latter is a significant problem for humans, as the Moon is deprived of a magnetic field that could attenuate powerful radiation flows from outer space.

The legal side of the issue boils down to the fact that Article 8.1 of the mentioned Treaty provides for the unlimited right of states to place their stations wherever they deem necessary. This, on the one hand, contradicts the basic principle of inadmissibility of claims by any state to extend its sovereignty over any celestial body. On the other hand, this naturally creates preferences for the advanced space powers, which will definitely begin colonization of the Moon before others. It is probably because of the ambiguity of The Moon Treaty (United Nations Treaty Series, 1979) that it has not yet been ratified by any of the G7 states, any of the permanent members of the UN Security Council, or indeed any of the countries with their own space program.

Nevertheless, some countries view the space industry not so much as a means of accessing lunar resources, but mainly as a driver of their *terrestrial* socio-economic potential. For example, the Law of Ukraine “On Space Activity” states that space activity is aimed, among other things, at “...the development of space science and engineering, space services and technologies that contribute to the stable growth of the national economy; the creation of a strong export potential of the space industry” (Law No. 502/96-BP, 1996: clause 3). And in fact, despite a lot of internal and external problems of different nature, until 2022 (the beginning of the full-scale Russian military invasion) Ukraine participated in several international space programs, delivering various engineering & construction works and aerospace services for the European Space Agency (ESA), for NASA and other space industry partners (NKAU, 2024). The Ukrainian State is still the main owner of all sectoral enterprises and plants in the country. New tasks, which demand solution in national aerospace industries, and perspectives of space activities in Ukraine were formulated in the analytical document “Space Vision of Ukraine, 2020-2029” (Committee on Space Policy and Legislation of the Cosmos Association, 2019), and were also specified in the “Concept of the State Space Policy Realization for the period to 2032” (State Space Agency of Ukraine, SSAU, 2011).

Advancement in space exploration must be paired with a profound reform of the education system and sectoral research programs (including project management, aerospace construction, rocket science, and polytechnic studies). Some of these issues regarding necessary educational reforms have already been addressed in our previous studies (Borinshtein et al., 2022). Ukraine is still among those very few countries capable of participating in space launches. This is hardly an achievement of modern Ukraine, but rather a result of the Soviet space legacy. Unfortunately, the current Russian-Ukrainian war severely diminishes Ukraine's chances of restoring itself as an influential 'space country' (as it was inside the Soviet Union), where aerospace technology really was at a very high level. Nonetheless, Ukraine *still retains* its applied-science and rocket-building potential, despite the fact that Ukrainian space-industry infrastructure is under military attack.

Returning to the public-law issues of space exploration, it is impossible to ignore the problem of territorial claims on the part of states that plan to establish their bases (for example, on the Moon), as well as on the part of private entrepreneurs and legal entities that, being under the jurisdiction of these states, will be related to “lunar programs”. A significant part of geopolitical contradictions can be removed if *the UN* will be the licensor of any kind of activity on commercial exploration of the Moon, and if the developed territory will be provided to licensees of any states not as property, but for *time-limited use* (with the indication of specific time limits). Legal mechanisms may vary, but it is obvious that scientific and economic activities on licensed extraterrestrial territory should *not* take place outside the “terrestrial” legal framework. States under whose jurisdiction entities engaged in the development of extraterrestrial territory are operating, quite naturally, will be guarantors of their residents' compliance with international cosmic legislation.

Finally, another general humanitarian imperative related to Space exploration lies in the realm of *ecology*. On Earth, we have already faced the ecological consequences of garbage accumulation, which natural recreational mechanisms cannot cope with. However, for instance, *on the Moon*, where there are *no such mechanisms at all*, the problem of waste utilization will have to be solved from the very first steps of its exploration. The abandoned malfunctioning mechanism will lie on the surface of the Moon for million years in an unchanged state. And during the period of intensive mining activities on the licensed territory, a huge amount of waste can accumulate, so it is absolutely inadmissible that they form garbage dumps and slag heaps after mineral extraction. Therefore, as unconditional restriction on the extraction of lunar resources (as an example) should be the obligation to fully utilize by-product waste. The license for space activities should clearly stipulate the absolute prohibition of accumulation of unprocessed waste, and ensure serious real sanctions for violation of this principle by licensed companies.

Conclusions

This study allows us to draw some inferences regarding the prospects of *space exploration* and those controversies – philosophical, political, legal, socio-economic, general humanitarian – that are already being identified today in the realm of space activities, and apparently will continue to gain momentum.

Virtually no one denies that the universally recognized global task is to fix the ecological and social situation *here on Earth*. And in such a context, the question naturally arises, *why* spend billions of money on a risky venture to develop much more aggressive extraterrestrial spaces, if right here and now, on the

globe, there are undeveloped areas? These terrestrial areas are incredibly vast, and they are evidently *closer* to our earthly life.

Perhaps it is not just "cosmic romantics", and it's not only about deposits of rare minerals. Humans continue to treat the Nature on our planet in a consumerist manner, yet we "rely" on the Moon (or even Mars). It is much easier to build "cosmic dreams" instead of trying to make a real plan how to improve the situation on Earth, and even more so – to follow this plan in real life, abandoning national geopolitical ambitions. Although, the Moon can hardly become a dwelling place for mankind. With a favorable turn of events, it can be a raw material base with few settlements, as well as a scientific and experimental site, and a buffer zone for long-distance space expeditions.

At the same time, *comprehensive space research* and probably the establishment of experimental settlements on the Moon (and later on Mars) should not be abandoned. Though, humanity will have to develop well-coordinated policy for the safe exploration of cosmic bodies. It is necessary to subject the whole range of space activities to detailed international legal regulation, starting with environmental issues (in particular, the problems of waste recycling after extractive industry) and UN licensing of any commercial activities on extraterrestrial territories. Full control over the implementation of all these laws should be transferred to a special committee of the UN, which will be able to grant licenses for the development of extraterrestrial territories, with the right to revoke them if the licensee violates the terms of the license.

The political and economic interests of certain states in space exploration and development should not dominate over the security interests of *all mankind* and cannot violate the principles of general humanitarian well-being. The technological superiority of today's leading space powers should not call into question the right of *developing countries* to participate as much as possible in the exploration of extraterrestrial territories, and *the right of all countries* to receive socio-economic dividends in proportion to their intellectual, financial, material or other contributions.

How soon this cultural-historical cycle can enter into play is hardly known today. However, it is more or less clear that its beginning will actualize a situation when not only research (cosmic observation, cognition of outer space), but also its *exploration* (partial colonization and exploitation) will become a *reality*. Nevertheless, we believe that such a reality must be preceded by a substantial harmonization of life *on our planet*. We consider that the potential *here* is far from being exhausted.

Space exploration represents one of humanity's most ambitious and forward-looking endeavors, offering unparalleled opportunities to expand our knowledge, innovate, and secure a sustainable future. Achieving its full potential, however, *requires different Nations to collaborate on a global scale*. As no single nation has the financial, technological, or sufficient human resources to tackle the immense challenges of space exploration independently. Common goals, shared resources, and collaborative missions – such as the International Space Station – demonstrate how pooling expertise and joint efforts can achieve *what no one country could alone*. Cooperative ventures allow for the sharing of costs, risks, and rewards, maximizing the impact of investments in such a complex activity as the exploration of outer space.

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The principle of proportionality in the restriction of human rights during the war in Ukraine

Принцип пропорційності в обмеженні прав людини під час війни в Україні

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Abstract

The purpose of the article is to study restrictions on human rights and freedoms from the perspective of proportionality, which is determined by the nature of public interests which are the legitimate purpose of restrictions on human rights and freedoms, which is especially relevant in the context of armed aggression against Ukraine, since ignoring their threatens the functioning of the state. The research methods used are systematic analysis, synthesis, generalization, historical method, etc. The peculiarities of the implementation with the principle of proportionality under extraordinary conditions have been considered. It has been emphasized that in a situation of full-scale war and the introduction of martial law in Ukraine, the interests of the state lie primarily in ensuring security, territorial integrity of the state, protection of state sovereignty and repelling armed

Анотація

У статті аналізуються обмеження прав людини в Україні під час війни, досліджується принцип пропорційності між інтересами держави і основними фундаментальними правами людини. Використовується методологія правового аналізу вітчизняних та міжнародних джерел, зокрема законодавства, судової практики та доктрини. Результати показують, що, хоча держава може обмежувати права під час війни, ці обмеження мають бути пропорційними загрозі та виправдані необхідністю захисту основних суспільних інтересів. У дослідженні зроблено висновок, що застосування принципу пропорційності має вирішальне значення для захисту прав людини, зокрема під час конфлікту, і наголошено на важливості аналізу кожного конкретного випадку для забезпечення належного балансу

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aggression. In the event of a threat to these interests, the state resorts to the application of restrictions on human rights and freedoms, applying the principle of proportionality between the interests of the state and basic fundamental human rights. This is manifested in the application of a number of restrictions on personal rights and freedoms, restrictions and special regulation in the field of economic activity, financial transactions, labour relations, and civil law obligations.

Keywords: state interests, principle of proportionality, martial law, human rights, restriction of human rights, state.

Introduction

After the Second World War, the world's views on the protection of fundamental human rights, freedoms and legitimate interests changed significantly. Democratic, legal, social states began to understand the true value of human rights and freedoms, as all people are born free, equal in their rights and freedoms, and their protection and defense began to be recognized as a priority for the state, which declared its democratic development (Ablamskyi et al., 2022).

The Constitution of Ukraine enshrines that the protection and promotion of human rights is the primary duty of the state. At the same time, the institution of human rights protection is a fundamental asset of any democratic legal system. The issue of restrictions on rights and freedoms, their balancing with the general interests of society and the need to fulfill the tasks of the state are relevant for any society. The problem of restrictions on human rights is special, since restrictive measures or derogation from their guarantees in the interests of the state and society directly depend on the conditions in which the state functions. Therefore, an important scientific problem is to determine the scope and focus of such restrictions.

An important standard for the permissibility of restrictions on rights and freedoms is the principle of proportionality. It is fair to say that this principle has an impact on the entire sphere of human rights protection, since theoretical interpretation and approaches to its application largely determine the introduction, implementation, improvement and effectiveness of human rights guarantees. The functioning and development of the human rights institution as a whole depends on this. In addition, the principle of proportionality is recognized at the level of international law, as well as in many national legal systems. This also applies to the legal system of Ukraine. The principle of proportionality remains the standard for the legitimacy of human rights restrictions under any conditions of state functioning. However, its application has certain peculiarities in situations where there is a special need to ensure the interests of the state.

In this article, an attempt is made to develop, on the basis of provisions of national and international law, theoretical approaches to understanding the peculiarities of the principle of proportionality as a criterion for the admissibility of restrictions on human rights and freedoms.

This article contains the following sections: Literature Review, Methodology, Results and Discussion, Conclusions. The "Literature Review" section presents an analysis of the main approaches of international and national science relevant to the study of the State's powers to restrict human rights in the context of the principle of proportionality. The "Methodology" section describes the research methods used to examine the selected issues. The "Results and Discussion" section contains an analysis of the significance of the principle of proportionality in the modern legal system of Ukraine, a review of national and international sources enshrining this principle, a description of the content of the principle of proportionality in terms of domestic law of Ukraine and international law, as well as the peculiarities of its understanding and application in Ukraine during the war, given the importance of public interests. The "Conclusions" section includes a brief summary of the role and peculiarities of the application of the principle of proportionality in the context of armed aggression against Ukraine.

між потребами держави та захистом основних прав.

Ключові слова: державні інтереси, принцип пропорційності, воєнний стан, права людини, обмеження прав людини, держава.

Literature Review

The problem of applying the principle of proportionality is one of the central ones at the level of world jurisprudence, where the focus of legal science is on understanding the construction of an effective system of protection of rights and freedoms as the main task of a democratic state (Parkhomenko, 2017); balancing the right to freedom of expression with the need to regulate harmful content online (Stovpets et al., 2023); study of international legal principles of protection of human rights and the problem of state responsibility for non-compliance with international legal standards in this area (Kriebaum et al., 2022), analysis of the role of the state in ensuring the protection of human rights (Shemshuchenko & Skripnyuk, 2017), especially after hostilities and the occupation of certain territories of the state (Ustymenko et al., 2022).

An important area of scientific research is the problem of correlation between individual rights and the sovereign powers of the state to protect public interests for the benefit of society (Schill, 2015). This includes the regulation of relations in the general interest (Levashova, 2019) by limiting certain guarantees of protection of rights and freedoms (Titi, 2014), including the potential risk of deprivation of property rights as a result of nationalization or re-privatization (Teremetskyi et al., 2020). Some scholars in their studies have identified the absence of an effective mechanism for national protection and implementation of the rights and freedoms granted in the field of property rights protection. Some of them focused on analyzing the existing judicial and extrajudicial ways of compensation for damages caused by armed conflicts, using the example of national legislation (Onishchenko et al., 2023). Others referred to the case law of the European Court of Human Rights (hereinafter – the ECtHR) as an effective tool for restoring violated rights, identifying the main criteria for considering such disputes (Kurylo et al., 2020).

In recent years, the study of problems related to the protection of human rights has been carried out mainly in the context of analyzing the principle of proportionality. This principle is seen as a guarantee of ensuring a fair balance between the state's powers and human rights, as well as a means of limiting the state's freedom of action in relation to a person (Ucaryilmaz, 2021). At the same time, the nature, content and place of the principle of proportionality in the legal system, including its role in the system of legal principles and standards, remain controversial in a number of aspects. Some scholars emphasise the independent importance of proportionality as a standard of international legal protection of human rights and freedoms in the practice of international institutions (Pohrebniak, 2012, p. 269); as a leading legal concept in the legal systems of European countries and in the activities of supranational European institutions (Scaccia, 2019, p. 2-3); as a central element of jurisprudence of the most influential national and international courts (Stone Sweet & Della Cananea, 2014, p. 916).

At the same time, other researchers interpret the principle of proportionality as a specific, derivative principle that is based on the fundamental principle of the rule of law and is an aspect of it (Pohrebniak, 2012; 2006, p. 35-36). Proportionality is also considered as one of the criteria, along with the criterion of legality, which determines the admissibility of state interference with human rights and freedoms (Terletsy, 2022, p. 21-50). In this regard, an interesting article is a scientific article in which the authors revealed the relationship between the restriction of certain human rights and the availability of material resources for such restriction (Teremetskyi et al., 2023, p. 199). In particular, scientists have proven that self-isolation in the context of the COVID-19 pandemic is possible only if there is housing that meets sanitary and technical standards and requirements stipulated by building regulations. This includes natural insulation, water supply, sewerage, electricity, heating, etc.

At the same time, proportionality as a standard for restrictions on human rights and freedoms requires further scientific research.

Methodology

A number of scientific and theoretical methods were used in the course of studying the issues of proportionality of restrictions on human rights in the public interest. The study was carried out on the basis of a systematic analysis of domestic and international law, decisions of national and international courts, as well as doctrinal provisions of domestic and foreign science.

The method of analysis was used to identify specific features of regulatory and theoretical approaches to certain aspects of the issues of human rights restrictions and the principle of proportionality. Within this method, certain characteristics of the key provisions of normative regulation and scientific research

regarding the problem of understanding proportionality, its features, role, restriction of human rights by the state, as well as the meaning of the principle of proportionality in this context were determined, which made it possible to analyze important components, aspects of normative regulation and theoretical approaches to understanding proportionality and relationships between them.

The method of synthesis was used to draw systematic conclusions based on the materials studied in scientific papers, legislation and case law. Within the framework of this method, the obtained results were generalized and integrated in order to form a comprehensive approach to the theoretical understanding of issues related to the nature of the principle of proportionality and its application both at the international level and in the legal system of Ukraine.

The method of generalization was used to study doctrinal, regulatory approaches and case law at the national and international levels on certain aspects of the problems of human rights restrictions and the application of proportionality requirements to develop general theoretical provisions for understanding the issue of proportionality in the context of human rights restrictions in the public interest. The historical method was used in the process of studying the development and transformation of the understanding of proportionality, state interests and human rights restrictions in the legal system of Ukraine.

Results and Discussion

The value and importance of the institution of human rights protection, the system of guarantees of rights and freedoms, which includes the provisions of international agreements in the field of protection of human rights and foreign investment, as well as the approaches of international jurisdictional institutions to their application, necessitate an extremely balanced approach to the restriction of human rights and freedoms. Therefore, the guarantees for the protection of human rights and freedoms enshrined in the laws and international agreements and developed in the jurisprudence of national and international judicial and arbitration institutions stipulate that restrictions on human rights must meet the proportionality criterion. Thus, the principle of proportionality is recognized at the level of international law in the field of human rights protection and foreign investment, as well as in the legal system of Ukraine.

When considering whether the restrictions on rights and freedoms applied by the state comply with the human rights guarantees established by the Convention for the Protection of Human Rights and Fundamental Freedoms, the ECtHR assesses whether such restrictions are lawful, as well as whether they are applied in the public interest and whether these restrictive measures are proportionate. In other words, the principle of proportionality is a criterion for assessing the admissibility of measures to restrict human rights, regardless of the legality of such restrictions and their (restrictions) focus on achieving a legitimate goal. According to the ECtHR, even if measures to restrict human rights and freedoms are lawful and in the public interest, such measures must always meet the criterion of proportionality (*Bogdel v. Lithuania*, 2013). In the context of the ECtHR's case law on cases based on the Convention, the principle of proportionality is universal and is applied by the ECtHR when interpreting the entire range of provisions of the Convention and its additional protocols and assessing the compliance of the state's restrictive measures with these provisions.

The application of the principle of proportionality at the level of international legal protection of human rights has also been developed in the field of disputes between states and foreign investors on the basis of bilateral and multilateral agreements on mutual protection of investments within the framework of investment arbitration, where disputes between investors and a state that has signed the relevant international conventions may be considered. At the same time, the arbitration proceedings analyze and evaluate the state's activities in this area. The problem of proportionality in the sense of its understanding as a problem of maintaining a balance between the sovereign right of states to exercise power in the public interest and compliance with guarantees of protection of foreign investments is one of the key issues. It is in the center of attention of scholars, appears in the practice of investment dispute resolution and significantly affects the further development of the institution of investment arbitration (*Henckels*, 2013), which in itself contributes to the protection of not only investors but also the interests of the state.

The proportionality of restrictions on human rights and freedoms is interpreted in the decisions of international courts as implying the existence of a legitimate aim for which the state applies restrictive measures. For example, the ECtHR notes that in order for restrictions on rights and freedoms to be considered compatible with the requirements of the Convention, they (restrictions) must be aimed at a

legitimate aim and there must be a reasonable relationship between the state measures and the aim they pursue (Radunović and others v. Montenegro, 2016). This approach is also supported by scientific works on the issues of international legal protection of human rights: the existence of a legitimate (lawful) purpose of the measures by which the state authorities restrict rights and freedoms is recognized as a necessary condition for the proportionality of such measures. Accordingly, restrictive measures that are not aimed at a legitimate goal are considered disproportionate (Kingsbury & Schill, 2010, p. 86), which is important for understanding the nature of possible restrictive measures.

The analysis of court decisions related to the issue of proportionality makes it possible to state that the approaches of international law to the interpretation of the principle of proportionality have been adopted in Ukrainian legislation and court practice. The Code of Administrative Procedure of Ukraine defines proportionality as ensuring the necessary balance between adverse consequences for the rights, freedoms and legitimate interests of a person and the goals of the actions or decisions of the authority. The Supreme Court, in detailing this definition, identified a list of conditional components of the understanding of proportionality: the exercise of powers, as a rule, should not cause any negative consequences that would not correspond to the goals to be achieved; if a decision or action may restrict the rights, freedoms or interests of individuals, such restrictions must be justified by the need to achieve more important goals; adverse consequences for the rights, freedoms and interests of a person as a result of a decision or action of a public authority should be significantly less than the harm that could have occurred in the absence of such a decision or action; to achieve socially useful goals, it is necessary to choose the least “harmful” means (Unified State Register of Court Decisions, 2019), which should be objective and have practical parameters.

According to legal practice, the principle of proportionality plays the role of a balancing mechanism, ensuring a “balance” between the need for the state to take measures to protect the public interest, fulfill state tasks, regulate public relations in the public interest and respect the rights, freedoms and legitimate interests of the individual. This principle was applied in Ukrainian law even before the outbreak of full-scale war. It is an important factor that contributes to the effectiveness of human rights protection and prevents arbitrary actions by state authorities. In particular, in the light of the proportionality criterion, the judiciary assessed the legitimacy of state measures that restricted human rights and freedoms in the interests of general (public) needs. Often, such measures, although formally legal, were found to be disproportionate, which led to the cancellation or recognition as unlawful of decisions of state bodies that applied these restrictive measures, or to the recognition as unconstitutional of legislative acts that provided for the relevant restrictions on human rights and freedoms.

An illustrative example is the case of mandatory vaccination of employees in connection with the spread of the SARS-CoV-2 coronavirus, which was considered by the courts in 2021-2022 and was referred to the Grand Chamber of the Supreme Court as raising an exceptional legal issue. Thus, an employee of a state-owned railway transport enterprise was suspended from work by order of the company's administration due to the absence of a supporting document on mandatory preventive vaccination or a medical certificate on the presence of contraindications to vaccination, which restricted the employee's access to work in order to protect the public interest in preventing the spread of the pandemic among the population.

The restrictions imposed on the employee constituted an interference with his right to respect for private life, so they were also assessed by the Grand Chamber in terms of compliance with constitutional and international legal guarantees of human rights protection. Although the Grand Chamber acknowledged that the suspension of the employee from work on the grounds of absence of preventive vaccination and non-payment of his salary during the suspension period was provided for by law and had a legitimate aim, the said measures did not comply with the principle of proportionality.

In particular, the Grand Chamber noted that the application of such measures was not accompanied by any individual assessment of the duties performed by the employee in his position, and no facts were established that would justify the need to suspend this particular employee from work. Relevant circumstances, such as the number of social contacts of the employee at the workplace, working conditions, etc. were not taken into account. On this basis, the Grand Chamber concluded that the order to suspend the employee from work did not meet the requirement of proportionality and was therefore subject to cancellation (Grand Chamber of the Supreme Court, 2022).

The criterion of proportionality is also applied by the Constitutional Court of Ukraine when assessing the constitutionality of legislative provisions that restrict the rights, freedoms and legitimate interests of a

person and citizen. For example, in the decision of the Constitutional Court of Ukraine dated 21.07.2021 No. 3-p(II)/2021, the provisions of Article 471 of the Customs Code of Ukraine, which provided for the confiscation of goods that are the subject of an offence as a mandatory sanction for violation of the customs control procedure in the simplified customs control zones, were declared unconstitutional (Constitutional Court of Ukraine, 2021).

In this decision, the Constitutional Court of Ukraine, referring to the interpretation of the principle of proportionality as requiring a reasonable balance between the interests of the individual and society, noted that the restriction of property rights in the form of confiscation of property must, *inter alia*, be appropriate and necessary to achieve a legitimate goal, as well as ensure a fair balance between the requirements of the public interest and the protection of property rights, without undue influence on the persons to whom such restriction is applied. In paragraph 2.1 of the judgement, the court ruled that the confiscation of goods under the challenged provision of Article 471 of the Customs Code of Ukraine is arbitrary and excessive and does not ensure a fair balance between the requirements of the public interest and the protection of property rights (Constitutional Court of Ukraine, 2021).

The principle of proportionality is a guarantee that, on the one hand, allows the state to achieve socially important goals through the use of state measures, and, on the other hand, prevents arbitrariness on the part of the state authorities in the application of human rights restrictions. At the same time, the application of the principle of proportionality, the nature of the balance between the protection of human rights and the general (public) interests, as well as the understanding of the fairness of such a balance always depend on the socio-political, economic and legal situation in which the state applies measures to restrict rights and freedoms. In the case of modern Ukraine, the armed aggression against the state and the imposition of martial law on its territory are the main factors affecting the application of the proportionality principle.

The conditions prevailing in Ukraine determine the specifics of understanding the legitimate purpose for which the state applies restrictions on rights and freedoms. Such a goal is the public (general) interests, the protection of which is aimed at the restrictive measures of the state authorities. The principle of proportionality implies ensuring an appropriate balance between the public interests in the protection of which the state imposes restrictions on rights and freedoms and the need to respect the rights of individuals, which is also relevant in martial law. However, the nature of these public interests is determined by the need to protect the state, society, state institutions and the constitutional order from a military threat. This is in line with the approaches of international law in the field of human rights protection, which recognize that public interests and their priority depend on the actual needs of society and the state in a particular historical period. International law recognizes a certain prerogative of the state authorities to determine the public interest and decide whether specific actions are in line with these interests based on the actual needs.

An analysis of the ECtHR case law suggests that this court widely applies the concept of “margin of appreciation,” i.e., freedom of discretion. It means that the state authorities, in particular the legislature, have considerable freedom in determining what is in the public (general) interest, since it is the national institutions of the state that are better aware of the needs of the country and society. In times of war, the public interests to which Ukraine should direct measures to restrict rights and freedoms are to ensure the defense of the state, deterrence and repulsion of armed aggression, restoration of territorial integrity within internationally recognized borders, increase of defense capabilities and effectiveness of national security and law enforcement. Of course, these interests were recognized as public at the constitutional level even before the start of Russia’s full-scale aggression.

Today, in the context of a war waged by an aggressor country, the state has grounds, and in some cases an immediate need, to apply more extensive, intensive and severe restrictions on rights and freedoms to protect the public interest than in peace. This is due to the nature of the potential consequences that may arise due to the lack of proper protection of the public interest or damage to it. Such consequences are more destructive and socially dangerous for the foundations of the state and social order, democratic development of the country and the ability of the state to effectively fulfill its tasks, as well as for the functioning of state and legal institutions, compared to the consequences in the absence of direct military aggression.

The exceptional importance of public interests related to defense, protection of territorial integrity and ensuring state sovereignty in times of war gives the state authorities grounds to apply increased restrictions on rights and freedoms that could be considered disproportionate in peacetime. This view is consistent with the concept of balancing competing interests, which is central to the understanding of the principle of

proportionality at the level of international law and national legal systems. Its essence lies in the fact that in case of competing interests or principles, it is necessary to compare and contrast them. The higher the importance of one interest or principle, the more significant restrictions on other interests or principles the state has the right to apply (Kingsbury & Schill, 2009 p. 30).

For example, the public national security interests recognized by the state in the area of ensuring freedom of conscience and the activities of religious organizations aimed at countering anti-state propaganda, preventing social conflicts, preventing interethnic and interreligious hatred, and preventing the use of religion and the church in political activities in the context of Russia's military aggression require an increased level of protection. In peacetime, insufficiently effective protection of these interests by the state, as well as violations by certain political and pseudo-religious organizations over the past decades, have led to encroachments on the freedom of conscience and religion of citizens, violations of the principle of separation of church and state, and cases of religious discrimination. In the context of Russia's full-scale war against Ukraine, these consequences are much more serious and pose a higher level of threat, as they include assisting the aggressor state in carrying out armed aggression, encroachment on the territorial integrity and sovereignty of Ukraine, spreading anti-state propaganda and undermining the state's defense capabilities. Therefore, in the context of martial law imposed due to Russian aggression, it became necessary to ban the activities of the Russian Orthodox Church (ROC) and its subordinate religious centers in Ukraine, which became the basis for submitting a relevant draft law to the Verkhovna Rada of Ukraine in November 2022 (Draft Law of Ukraine No. 8221, 2022).

Understanding the public interest, the protection of which is a legitimate purpose for the state to impose restrictions on rights and freedoms, is important. Special external and internal circumstances, such as a state of war, armed aggression against the state, pandemics, etc., may lead to the emergence of new public interests or the transformation of existing ones that would not have occurred under other conditions. For example, at the legislative level, the state has recognized the public interest in protecting the financial security of the state in the field of combating money laundering and preventing the financing of terrorism. These interests remain relevant under martial law, but undergo a certain transformation. Such "transformed" public interests are expanding and consist of ensuring the protection of the financial system of Ukraine from attempts to use it (the financial system) to assist the aggressor state in conducting activities aimed at violating the national security, territorial integrity, and defense capabilities of Ukraine, as well as preventing attempts by the aggressor state and its residents to establish control or influence the activities of financial institutions in Ukraine. This led to the adoption of the Law of 04.11.2022 (Law of Ukraine No. 2736-IX, 2022), which provides for: strengthening financial monitoring measures in relation to financial transactions and business relations involving citizens and residents of the aggressor state, a ban on the participation of such persons in the management of primary financial monitoring entities, as well as the introduction of monitoring mechanisms aimed at preventing the financing of collaboration and aiding the aggressor state.

There may be situations when certain public interests, which have long been a priority and determined the direction of development of legal institutions, lose their significance in the context of armed aggression. This happens in cases where full protection of such interests may pose a threat to the protection of interests that have become particularly relevant during the war. Public interests, the significance of which increases under martial law, are more important in terms of defence of the state, protection of its security and territorial integrity than the interests that had priority in the absence of armed aggression. For example, over the decades of development of private law in Ukraine, the principles of binding civil law obligations and freedom of contract were recognized by the state as public interests. These principles were considered fundamental conditions for the establishment of a market economy model, ensuring economic diversity and protection of all forms of ownership, which were enshrined in the constitution. Today, however, such interests are, relatively speaking, losing their priority over the state's interests in defence, security, monetary circulation, the functioning of the financial system and the protection of the state's property interests.

In particular, in March 2022, Ukraine introduced a moratorium (ban) on the execution of monetary and other obligations, the creditors (collectors) of which are the Russian Federation or citizens of the Russian Federation (except for those legally residing in Ukraine), legal entities established and registered in accordance with the laws of the Russian Federation, as well as legal entities established in accordance with the laws of Ukraine, the ultimate beneficial owner, member or participant (shareholder) of which with a share in the authorized capital of 10% or more is the Russian Federation (Resolution No. 187, 2022).

In other words, the public interests of the state in the field of defence and security took precedence over other public interests, in particular the interests of establishing the principles of binding civil law obligations, which were traditionally considered fundamental to private law and the economic life of the country. This decision was due to the fact that in the context of the war started by the aggressor state, the priority provision of traditional private law principles in the law of obligations in relations involving the Russian Federation, as well as citizens and residents of the Russian Federation, poses a threat to Ukraine's interests in the field of defence and security, as it actually contributes to the financing of the actions of the aggressor state by Ukrainian citizens and organizations.

Another example is the regulation of labour relations during the war. Traditionally, labour law has given priority protection to the public interest in guaranteeing the rights of employees, which is reflected in most mandatory labour law provisions, in particular, regarding the form of an employment contract, the procedure for dismissing an employee and changing essential working conditions, labour standards, the duration and procedure for granting leave, and the effect of collective bargaining agreements. However, in times of war, other public interests are also becoming more relevant, including the interests in adapting the economy to the conditions of war, using labour resources more efficiently and promptly, and eliminating staff shortages and labour shortages.

The need to protect such new public interests leads to restrictions on traditional interests in labour relations. This is confirmed by the provisions of the Law of Ukraine 'On the Organization of Labour Relations under Martial Law' (Law of Ukraine No. 2136-IX, 2022), aimed at regulating labour issues in wartime, which introduces special rules on the conclusion of employment contracts, changes in working conditions, granting of leave, dismissal, working hours and rest periods, etc.

These provisions are aimed at balancing the public interest of protecting employees, traditionally enshrined in labour law, with the new public interest of ensuring the functioning of the national economy in times of war. This is done through certain restrictions on employees' rights and by providing the employer with greater flexibility and discretion in these labour matters.

There may also be situations where certain public interests have long been a priority and have guided the development of legal institutions, but in the context of armed aggression, their importance is somewhat reduced. This occurs when ensuring these interests in full may pose a threat to the protection of interests that have become relevant in times of war. The public interests, the importance of which increases under martial law, are more important in terms of state defense, protection of its security and territorial integrity than the interests that were prioritized in the absence of armed aggression. For example, in March 2022 (Resolution No. 187, 2022) a moratorium (ban) was introduced on the fulfillment of monetary and other obligations for which the Russian Federation or citizens of the Russian Federation (except those residing in Ukraine legally), legal entities, created and registered in accordance with the legislation of the Russian Federation, as well as legal entities created in accordance with the legislation of Ukraine, if their ultimate beneficial owner, member or participant (shareholder) with a share in the authorized capital of 10 percent or more is the Russian Federation.

Over the decades of development of private law in Ukraine, the principles of binding civil law obligations and freedom of contract have been recognized by the state as public interests. This was seen as a fundamental condition for the establishment of a market economy model, economic diversity and protection of all forms of ownership, which were also enshrined in the constitution. Today, these interests are, relatively speaking, losing priority to the interests of protecting the state in the areas of defense, security, money circulation, the functioning of the financial system and the property interests of the state. In the context of the war started by the aggressor state, the priority provision of traditional private law principles in the law of obligations in relations involving the Russian Federation and citizens and residents of the Russian Federation poses a threat to Ukraine's interests in the field of defense, as it will actually mean permission to finance the actions of the aggressor state by Ukrainian citizens and organizations. Thus, in the context of martial law, not only the issue of understanding the public interests (legitimate purpose) to which the measures of the state authorities are directed and the correlation (balance) between public interests and human rights and freedoms is relevant, but also the issue of the correlation between the public interests themselves and the determination of the priority among them.

The impact of extraordinary threats to the state, society and national security, such as the spread of the pandemic in 2020-2021 and a full-scale war in 2022, on the application of the principle of proportionality

of restrictions on rights and freedoms is related to the understanding of the legal means by which the state restricts human rights in the public interest. These means must not only be necessary to achieve the goal of protecting the relevant public interest, but also take into account the nature of the emergency circumstances - an increased threat to the life and health of the population, as well as armed aggression against the state.

The same public interests often require different legal remedies depending on whether they are protected in normal circumstances or in times of war. If state measures to restrict rights and freedoms do not take into account the situation of armed aggression and are identical to those applied in peacetime, such measures may harm the priority public interests that have become particularly relevant during the war, in particular, ensuring the defense and security of the state, as well as countering armed aggression. For example, in the context of military aggression by the Russian Federation, the means of protecting public interests, in particular, the seizure of private property for reasons of public necessity - interests that exist even in normal peacetime conditions - have specific features in relations involving the Russian Federation and its residents. According to the Law of 03.03.2022 (Law of Ukraine No. 2116-IX, 2022) such legal means consist in the seizure of property owned by the Russian Federation and residents of the Russian Federation without any compensation and by decision of the National Security and Defense Council of Ukraine, which is enacted by the Decree of the President of Ukraine. The use of "ordinary" legal mechanisms in these legal relations in wartime, including the seizure of property with compensation for its value, could create an additional threat to the public interest related to ensuring the security and defense of the state.

State measures applied in a situation of extraordinary threat, including under martial law, may be more restrictive of human rights and freedoms than measures aimed at protecting the relevant public interests in the absence of an immediate military threat to the state. However, such increased restrictiveness of state measures should not only be accompanied by more intensive restrictions on rights and freedoms, but also ensure that the priority public interests themselves, due to extraordinary circumstances, such as martial law, are not harmed.

Conclusions

Based on the established provisions of science and legal practice, both at the national and international levels, regarding the interpretation of the principle of proportionality, the institute of human rights, the role and powers of the State in the field of protection of citizens' rights and freedoms, the author develops approaches to understanding the nature, features and place of the principle of proportionality as a legal phenomenon in the legal system of Ukraine in the context of armed aggression. It also helps to improve the practical application of the principles of proportionality in Ukrainian law.

Both the national legal system of Ukraine and international law consider proportionality as an important criterion for the admissibility of restrictions on rights and freedoms that the state applies in the public interest. Being a universal principle, the principle of proportionality of restrictive measures of the state is also valid in the context of emergency threats, including in the context of martial law in Ukraine. However, in such situations, proportionality as a criterion for human rights restrictions has specific features.

Firstly, restrictions on human rights are conditioned by the understanding of the legitimate purpose of restrictions, i.e. public interests, in defense of which the state applies restrictive measures to the rights and freedoms of an individual: for example, in a state of war, the interests aimed at ensuring the defense and security of the state are given priority. The nature and significance of these interests, the potential consequences of insufficiently effective protection provide the state authorities with grounds for applying increased, more extensive restrictions on rights and freedoms in these interests.

Secondly, the extraordinary nature of threats to the state and society leads to competition between public interests and the need to identify among them the priority interests that need to be protected by the use of state restrictive measures on human rights.

Third, extraordinary conditions, such as armed aggression against the state, affect the specifics of restrictive measures used by the state authorities to protect certain public interests in a situation of extreme threat, compared to measures to be applied in these public interests in the absence of such a threat.

A theoretically grounded and comprehensive approach to understanding the principle of proportionality, its features and application in the legal system of Ukraine in wartime is a key factor contributing to the

efficiency of the state mechanism, achievement of the goals of the State's tasks at the present stage, as well as strengthening of guarantees for the protection of human rights, prevention of arbitrary actions of state bodies, and ensuring an appropriate balance between public interests, in particular, those that are of priority in wartime, and human rights and freedoms.

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The issues of feminist linguistics in Slavic philology: a fragmentary-aspectual overview

Проблематика феміністичної лінгвістики в слов'янському мовознавстві: фрагментарно-аспектуальний огляд

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Abstract

This article offers a concise overview of feminist linguistics within Slavic philology, focusing on the formation and function of feminines. It analyzes the influence of national linguocultural traditions, their continuity, and extralinguistic factors on the development of feminine forms in Slavic languages. The study highlights the dominance of masculine forms and the underrepresentation of feminist perspectives in these languages. By examining the evolution of feminines and the factors driving their usage, the authors argue that feminization is a regular, irreversible process across the Slavic linguistic landscape. The research reveals a significant difference in the degree of feminine formation between West Slavic languages and East/South Slavic languages, suggesting varying levels of gender equality awareness and feminist activism across these regions.

Анотація

Стаття присвячена проблематиці гендерної лінгвістики, феміністичному мовознавству як її складнику, фрагментарно-аспектуальному огляду особливостей творення і функціонування фемінітивів у слов'янських мовах, зважаючи на національні лінгвокультурні традиції, їх тяглість і вплив екстралінгвальних чинників. Уперше окреслено загальні тенденції поширення фемінітивів у слов'янському мовному просторі, схарактеризовано дослідницькі підходи та аспекти, провідні тенденції процесу фемінізації. Методологічними засадами наукової розвідки є теоретичні постулати, що декларують наявність відмінностей у гендерних лінгвокультурах, водночас домінування маскуліності й наявність феміністичної «дефіцитності». Категорію фемінітивності трактуємо як узагальнене поняття, об'єднане спільним значенням 'особа жіночої статі'. Доведено, що процес фемінізації належить до регулярних і незворотних; найважливішим аргументом фемінізації є вивчення розвитку категорії фемінітивів, що мотивує закономірності творення загальних назв осіб жіночого роду до найменувань чоловічого роду. Фемінітивна підсистема кожної слов'янської мови побудована на спільнослов'янській основі, у якій збереглися

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питомі ознаки, і водночас розвинулися специфічні національні мовні риси. З'ясовано, що західнослов'янські мови випереджають східнослов'янські та південнослов'янські щодо активності фемінітивотворення.

Ключові слова: лінгвістика, лінгвістичні дослідження, мовна зміна, мовний розвиток, слов'янські мови.

Introduction

The problem of feminization. The actualization of research into feminitive issues in contemporary Slavic linguistics is primarily driven by the active and dynamic processes of expanding the system of common feminine nouns and the increase in their functional load, which is particularly evident within the Slavic linguistic continuum.

Feminization in the Slavic context. These processes embody an extension of the development of ancient inherent features of Slavic languages regarding the formation and usage of feminine nouns parallel to masculine nouns. This phenomenon has acquired a distinctive character due to the corresponding development of the linguistic system and the accentuation of specific features in various Slavic languages, influenced by extralinguistic factors that manifest differently across Slavic societies. The processes of dynamization in feminitive lexis are undoubtedly a consequence of the legal provision for gender equality at the international level, as the promotion of equal rights and freedoms for both sexes has been declared in international documents since the mid-20th century. General feminine nouns have been a characteristic feature of each historical epoch in every Slavic linguoculture, demonstrating a tendency towards gradual growth. However, the contemporary period exhibits unique characteristics in this respect. This distinctiveness is motivated by a confluence of processes, including democratization, nationalization, Europeanisation, internationalization, and globalization. The phenomenon of feminization is unequivocally caused by women's active social and professional engagement worldwide. It is aimed at the need to differentiate between masculine and feminine agentive nouns, separating designations for women from those for men. This is particularly relevant when addressing qualities associated with women's professional activities, the need to provide them with objective qualifications, and determine appropriate levels of competence in comparison with the aforementioned masculine categories. This has led to an active increase in nouns denoting female persons and their widespread use in language, speech, and communication. All of the above demonstrates that the issues presented in this study are pertinent to contemporary Slavic linguistics.

The aim of this scientific study is to present, in an aspectual and fragmentary manner, the experience of examining feminist linguistics issues in Slavic philology. Specifically, the study seeks to (a) synthesize this experience to elucidate the developmental trajectory of Slavic feminist linguistics and actualize relevant research aspects, (b) highlight certain achievements, and (c) delineate a common research perspective.

This investigation *draws upon* selected works by leading Slavists who have developed feminist linguistics issues in relation to specific Slavic languages (see Bibliographic References), as well as in a comparative aspect with the actualization of various languages (Błaszowska, 2016; Kosmeda, 2022; Krysiak, 2000; Machek, 2022; Shpit'ko, 2010).

The novelty of this scientific inquiry lies in its attempt to generalize trends in the dissemination of feminitives across Slavic languages, to ascertain the peculiarities of their descriptive vector in the scholarly works of Slavic linguogenderologists, and to describe approaches to the study of feminist linguistics within Slavic philology.

Theoretical Framework

By the end of the 20th century, feminization was merely gaining momentum; however, in the 21st century, it has become manifestly evident (albeit to varying degrees) across all functional styles of Slavic languages. Unsurprisingly, the literary and journalistic styles of speech, and particularly the colloquial style, which embodies virtually the entire lexical wealth of each language, now distinctly present the process of feminization. This phenomenon is fully expressed in these styles, demonstrating a regular and consistent

character (Arkhanhelska, 2019, pp. 298–306; Brus, 2019a, p. 1, pp. 266–270; Styshov, 2012, pp. 23–37; Taranenko, 2015, pp. 103–116; Boknikova, 2000; Janicka, 2015), occasionally exhibiting excessive manifestations that are subject to criticism within academic circles. This is primarily observed in contemporary Ukrainian linguoculture, specifically in the domain of word-formation nomination (Arkhanhelska, 2019, pp. 320–336; Kysliuk, 2017, pp. 333–335). Nevertheless, scientific and official-business styles of speech cannot be considered entirely impervious to the phenomenon of feminization (Arkhanhelska, 2019, pp. 112–119; Brus, 2019a, p. 1, pp. 270–272, 285–295; Karwatowska, Szpyra-Kozłowska, 2005). Some Ukrainian scholars emphasize that currently, there is no discernible demarcation of feminines based on pragmatic features, particularly stylistic and register-based characteristics (Kosmeda, 2014, p. 164). The question of feminine lexis acquiring stylistically neutral status is being examined in linguistic feminist Slavic studies, notably in works addressing issues directly related to women's rights and freedoms (gender equality, feminist movement, tolerance, et cetera) (Jurasz, 1994; Shpyra-Kozłowska, 2019).

Researchers focus not only on the study of the current state of feminine subsystems (Aryzankovska, 2010; Koneski, 2003) but also on the past (Humets'ka, 1958; Janicka, 2015), actualizing the synchronic-diachronic (Baltova, 2010; Brus, 2019a; Kysliuk, 2017) and contrastive (Kovalyk, 1962; Machek, 2022; Radeva, 2010) approaches, particularly involving folklore texts (Khachmafova et al., 2023), as well as considering national and gender stereotypes, which are particularly represented in contemporary women's literature (Bilotserkovets et al., 2023). Linguists focus on the interpretation of feminine forms through the prism of (1) comparative linguistics (Arkhanhelska, 2022; Shpit'ko, 2010; Blaszkowska, 2016; Krysiak, 2000); (2) linguo-axiology (Drahychevych, 2010; Kosmeda, 2000); (3) linguoculturology (Drahychevych, 2010; Radeva, 2010; Maloha-Krupa, 2018); (4) linguistic stylistics (Boknikova, 2000; Feketa, 1968; Hołojda-Mikulska, 2019; Taranenko, 2021); (5) media linguistics (Styshov, 2012; Taranenko, 2021); (6) sociolinguistics (Ivanova, 1984; Taranenko, 2021; Dubisz, 2021); (7) word formation (Humets'ka, 1958; Drahychevych, & Utvych, 2019; Kysliuk, 2017; Kovalyk, 1964; Pawlenka, 1978; Radeva, 2010; Radeva, 1991; Taranenko, 2015; Grochowska, Wierzbicka, 2015); (8) lexicology (Radeva, 2010; Styshov, 2012), including terminology (Krysiak, & Malocha-Krupa, 2020); (9) morphology (Dvonč, 1972; Grzegorzczkova, 1999; Karwatowska, & Szpyra-Kozłowska, 2005; Maloha-Krupa, 2021; Shticha, 2018); they address the issue of (10) the lexicography of feminine forms in various languages (e.g.: Brus, 2019a; Brus, 2019b; Hodovana, 2009; Desprak, 2020; Kosmeda, 2022; Krysiak, 2000; Maloha-Krupa, 2015).

To the contentious issues of gender linguistics, we attribute debates regarding its metalanguage, particularly concerning the preference for specific orthographic variants of certain terms: *feminative* (Arkhanhelska, 2022; Dubisz, 2021; Pyper, 2014) and *feminitive* (Blaszkowska, 2016; Brus, 2019a; Drahychevych, & Utvych, 2019; Machek, 2022; Shpit'ko, 2010). This issue is further examined with arguments favoring the term *feminitive*. Discussions also arise regarding the productive suffixes of feminines in various languages and the prospects for developing women's designations by emphasizing suffixal formations or compound nominations (Baltova, 2010; Harbatski, 2016). Questions concerning the stylistic markedness of feminine designations are also debated, as some scholars argue that modern suffixal formations for women's designations belong to the domain of colloquial vocabulary (Arkhanhelska, 2022; Kysliuk, 2017), while others insist on their attribution to neutral speech (Brus, 2019a; Kosmeda, 2022).

Methodology

In contemporary linguistics, the dominant paradigm is a multifunctional pragmatic approach to scientific knowledge. This framework enables researchers in the field of feminist linguistics, as a component of gender linguistics, to employ methods and techniques from sociolinguistics, linguoculturology, linguoconceptology, discourse linguistics, corpus linguistics, and other related disciplines. Linguists utilize these approaches when presenting issues in gender linguistics.

The principles of feminist works are based on the concepts declared by linguogenderologist D. Cameron (Cameron, 1995, pp. 31–44), specifically regarding (a) 'female deficiency', (b) 'male dominance', and (c) 'differences in gender cultures'. The theory of 'female deficiency' emerged under the influence of R. Lakoff's ideas (Lakoff, 1973, pp. 45–79), which posit that the linguistic system is a repressive mechanism that suppresses women and compels them to act according to certain speech tactics, stereotypes, and corresponding practices, which are influenced by gender socialization. National gender culture is instilled from school, actualizing the corresponding gender stereotypes (Kravchuk et al., 2024).

A comprehensive set of research methods is employed in this study to achieve the stated aim: (1) deduction and induction facilitate the transition from analyzing concrete facts and individual research results to broader generalizations; (2) analysis and synthesis enable the identification and differentiation of commonalities and differences in the considered scientific works; (3) the classification method serves to systematize scholars' views aspectually, while (4) the descriptive method is used to present theoretical material sequentially and to formulate conclusions; (5) a comparative-contrastive approach is employed to comprehend the aspectual peculiarities of feminist linguistics development across East, West, and South Slavic linguistics. Finally, (6) the conceptual-analytical method is applied for the methodological comprehension of theoretical and practical developments in Slavic national feminist aspects within gender linguistics studies. This multifaceted methodological framework ensures a thorough and nuanced examination of the subject matter.

Moral and Ethical Interpretation of Gender Issues. Ethics, as is well known, formulates, substantiates, and creates models of ideal human behavior, which also extends to gender behavior. This is manifested in the communicative and activity-based practices of people, reflected in attitudes towards women and the methods of addressing them, highlighting the concept of gendered linguistic thinking. The roots of gender studies trace back to antiquity, a time of prevailing inequality: men and women, slaves and free people, children and adults were not considered equals. Greek philosophers limited women's roles to raising children, maintaining the household, providing sexual satisfaction, and caring for men. The principle of subordinating the feminine to the masculine was central to Hellenistic philosophical teachings. Christianity also contributed to the establishment of gender inequality, as the Bible presents the secondary status of women, created from Adam's rib. Moreover, women were burdened with the "responsibility" for original sin. Scholastic philosophy further viewed the feminine principle as inherently imperfect. In the late 19th century, foreign linguistic philosophy raised the issue of the English pronoun "he," which remains a subject of debate. Between 1900 and 1960, Western linguists developed theories about fundamental differences in male and female speech styles and questioned the use of word forms like *doctress* or *authoress*, though comprehensive research in this area was lacking. It is widely acknowledged that from the mid-20th century, social factors began to play a pivotal role in linguistics, framing language in connection with society and individuals as its members. Anthropocentrism was recognized as a fundamental principle in linguistics. Over time, linguistics expanded its focus to include the socio-cultural differences in male and female mentalities. Consequently, the methodology of gender linguistics is founded on the moral and ethical principles of contemporary society regarding the declaration of gender equality. Importantly, in 1990, the Council of Europe adopted a recommendation to eliminate sexism in language, aiming to neutralize gender asymmetry (Kosmeda, 2014, pp. 9–20).

Results and Discussion

In the article, a review of the development of feminist linguistics in Slavic studies is presented, taking into account both traditional and contemporary trends, as well as the influence of extralinguistic factors. The research is projected onto Western, Eastern, and Southern Slavic languages to determine the degree of activity in the formation of feminines. The category of feminines is examined from a multifaceted perspective. Various scientific concepts regarding the interpretation and perception of feminines, along with an understanding of their functional characteristics, are considered.

In contemporary Slavic linguistics, we observe scholars' efforts directed towards creating a scale of feminine evaluation for individual languages. This approach represents a variant of the psycholinguistic scaling method, which measures characteristics based on the principle of their manifestation to a greater or lesser degree (Kosmeda, 2000). Notably, there is a prevalent view that among Slavic languages, Czech and Slovak are most susceptible to feminization (Arkhanhelska, 2019), while some scholars consider Russian to be among the least feminized (Taranenko, 2021). Taranenko argues that the Ukrainian language occupies an intermediate (median) position in this dimension, noting that the tendency towards feminization is increasing in scope across all Slavic languages. However, this trend is most pronounced in Ukrainian within the Eastern Slavic group and in Western Slavic languages (Taranenko, 2021, p. 63). Information regarding the assessment of femininity manifestation in other Slavic linguocultures has not been identified. Nevertheless, a methodology for creating the aforementioned scale to determine the degree of language femininity has not yet been proposed. One of the proposed parameters for measurement is the existence of feminine dictionaries, which records the number of feminines and provides information on the emergence of new feminine personal nouns for each language (look at Fig. 1).

The extent of the prevalence of feminitives in Slavic languages



Figure 1. The emergence of new feminitives in Slavic languages.

The intensification of creating such dictionaries has been observed since the beginning of the 21st century, particularly in Ukrainian, Russian, and Polish languages. Understandably, lexicographers also record identified neologisms in dictionaries of new words and meanings, which should be utilized when determining trends in the feminization of the respective language. Dictionaries of feminitives for a specific language, such as Russian, are also created by scholars from other countries. For instance, in 2006, a dictionary entitled 'Names of Women: A Supplementary Dictionary' (in Ukrainian, 'Назви жінок. Додатковий словник'; in Russian, 'Названия женщин. Дополнительный словарь') was published in Poland, compiled by V. Kul'pyna and Ya. Vavzhynchyk (2006), containing 1,350 names for women. This dictionary was sourced from a Russian explanatory dictionary of women's names (2002) containing 7,000 entries, compiled by M. Kolesnikov. An interesting observation is that most names presented in these dictionaries are not exclusively feminine. They primarily include terms used in the Russian language to denote both male and female persons. As a result, analyzing such publications may not provide an accurate representation of the number of feminisms in the Russian language.

In contrast, Ukrainian feminine lexicography has made notable advancements. Several significant works have been published in recent years. Firstly, in 2009, M. Hodovana compiled a reference dictionary of person names by type of activity. This comprehensive work contains 2,500 entries, of which 712 are feminitives. Secondly, H. Plachynda created a dictionary of feminitives in 2018, specifically for press officers of the territorial departments of the State Emergency Service of Ukraine. This dictionary includes 239 entries, although it has faced some criticism for its perceived incompleteness (Kosmeda, 2022). Thirdly, a significant contribution to Ukrainian feminine lexicography was made in 2019. M. Brus compiled a historical explanatory lexicon of the Ukrainian language, covering the 11th to 21st centuries. This extensive work contains over 8,000 entry words, representing a substantial advancement in the field. This dictionary can be qualified as a complete explanatory normalized dictionary of Ukrainian feminitives, reflecting a diachronic-synchronic cross-section of the Ukrainian language from antiquity to the present day. The authors believe that Ukrainian feminine lexicography can take pride in its achievements, and it enables the tracking of trends in the expansion of the feminitive system. This dictionary confirms that the Ukrainian language stands out among other Slavic languages due to a significant number of feminine forms.

In international linguistics, a notable achievement in feminist lexicography is the dictionary of Polish women's names, edited by A. Maloha-Krupa (2015). This represents the first woman-centric dictionary in the history of Polish linguistics, exclusively incorporating feminine nouns, analyzing their meanings, and demonstrating their practical applications. Special emphasis is placed on the creation of female designations derived from their professional roles and activities. The work demonstrates that in the early developmental stages of Polish studies as a discipline, the creation and usage of feminitives and masculinitives were at virtually equivalent levels (Desprak, 2020, pp. 249–251).

The East Slavic Tradition of Feminisation Research. In East Slavic linguistics, the study of feminitives is gaining increasing prominence due to the constant influx of new feminine nouns into the lexicon of various East Slavic languages.

In **Russian linguistics**, this area of study has a certain historical trajectory, which, during the Soviet period of linguistic development, influenced the interpretation of the feminization process by Belarusian and Ukrainian scholars. It was not considered productive or effective (for a detailed review, see M. Brus (2019a, pp. 21–22)). Despite the fact that the formation of feminine nouns from masculine nouns is characteristic of most Slavic languages, this tendency, as previously mentioned, is not developed at the national level in **the Russian language**. The primary designations for female persons in the literary language remain predominantly masculine nouns, particularly those serving to nominate professional activities and indicate a woman's social status. This persists despite considerable attention being devoted to the study of **the feminine word-formation system in the Russian language** during the previous century (Brus, 2019a, p. 10). However, such formations are predominantly recorded at the colloquial level.

Under the influence of the **Russian language**, masculine nouns for expressing personal meaning have become established at the literary level in the **Belarusian language** despite the long and continuous history of feminine formation. A comprehensive study of women's appellations in Old Belarusian is the work of M. Pavlenko, which characterizes the methods of word formation, motivational base, word-formation types, and word-forming means of modelling feminines in the Belarusian language. Pavlenko notes that feminines can be derived from nouns, adjectives, verbs (including participle forms), and phrasal systems, but the majority are motivated by masculine nouns, which is entirely understandable (Pawlenka, 1978). An intensification of neofeminism formation in the Belarusian language has not been observed; this process in Belarusian linguoculture occurs similarly to Russian, that is, less actively and at a slower pace (Harbatski, 2016).

The systematic study of feminines in **the Ukrainian language** originates from the works of O. Potebnia (although he did not use this specific term). This Ukrainian linguist identified masculinitives (masculine forms) as the primary derivational base for feminines, emphasizing that most feminine nouns are motivated by masculine nouns of various structures. For instance, he noted that nouns with the suffix *-ьк-а* are derived from stems ending in *-ь, -йь(-ь, -й), -инь, -ець*, as discussed in his work "From Notes on Russian Grammar. On Changes in Meaning and Substitutions of Nouns" (1889) (Potebnia, 2018). Examining the derivation process of feminines in Old Ukrainian of the 14th–15th centuries, L. Humetska observed that feminine appellations were predominantly formed from corresponding masculine nouns using suffixes such as *-к-а, -иц-я, -н-а, -ини* (Humets'ka, 1958, pp. 88–89). I. Feketa's work is significant for understanding the history of feminine studies in Ukrainian. He thoroughly examined the usage of female appellations in different styles of Ukrainian speech, explaining that the majority of derived feminines are motivated by masculine forms. At the same time, some are influenced by verbs and adjectives (Feketa, 1968). However, the most substantial contribution to the study of feminine word formation in Ukrainian and other Slavic languages in the 20th century, as will be discussed further, comes from I. Kovalyk's works. The researcher substantiated the suffixal derivation of nouns in relation to most Slavic languages. Kovalyk identified simple and derivative feminine suffixes in Ukrainian, positing that as a result of word-formational reanalysis, masculinitive formants become components of newly formed feminine suffixes (*-анк-а, -истк-а, -антк-а, -тельк-а*) (Kovalyk, 1962). It can be stated that the metalanguage of feminine word formation originates from Kovalyk's derivatological studies.

In the context of East Slavic linguistics, the Ukrainian language has demonstrated the most significant dynamization of feminine lexis. It is important to emphasize that the specific development of Ukrainian feminines is influenced by a sociolinguistic mega-factor currently present in the Ukrainian linguistic space – the Russo – Ukrainian war. This factor distinguishes the contemporary Ukrainian linguoculture in terms of modelling neofeminisms. The analysis of online publications from all regions of Ukraine has enabled the identification of the most popular war-related feminines used by journalists in their materials during October 2022 and 2023. Among these are: *військовослужбовиця* ('viis'kovosluzhbovytsia' – female service member) (125 occurrences), *заступниця Міноборони України* ('zastupnytsia Minoborony Ukrainy' – female deputy of the Ministry of Defence of Ukraine) (96), *речниця Сил оборони* ('rechnytsia Syl oborony' – female spokesperson of the Defence Forces) (84), *офіцерка* ('ofitserka' – female officer) (44), *медикinja військового госпіталю* ('medykynia viis'kovoho hospitaliu' – female medic of a military hospital) (33), *солдатка* ('soldatka' – female soldier) (23), *розвідниця* ('rozvidnytsia' – female scout) (19), *артилеристка* ('artylerystka' – female artilleryist) (11), *десантниця* ('desanynytsia' – female paratrooper) (8), and *навідниця* ('navidnytsia' – female gunner) (6). Additionally, professions such as *генералка* ('heneralka' – female general), *сержантка* ('serzhanotka' – female sergeant), *командирка* ('komandyrka' – female commander), *танкістка* ('tankistka' – female tank operator), *пілотеса* ('pilotesa' – female pilot),

and *снівробітниця військового підрозділу* ('*spivrobotnytsia viis'kovoho pidrozdilu*' – female employee of a military unit) were also mentioned (IDPO, 2023).

The West Slavic Tradition of Feminisation Research

The foundation for the establishment of ***Polish linguistic feminine methodologies*** was laid by general and specialized linguistic studies, particularly in derivatology, which examined the word-formation of nouns denoting female persons. Considerable attention has been paid to investigating the methods of feminine formation, identifying the corresponding system of word-forming means, and derivational relationships between primary and derivative appellations (Grochowska, & Wierzbicka, 2015, pp. 45–55). In Poland, the issues of feminist linguistics are being developed by teams of linguists working in research institutes and relevant gender centres. Notably, a group of scholars from the University of Wrocław focuses on studying contemporary aspects of feminine formation in the Polish language, as well as their lexicographic representation and standardization (Hołojda-Mikulska, 2019; Krysiak, 2000; Krysiak, & Małocha-Krupa, 2020; Maloha-Krupa, 2018; Maloha-Krupa, 2021). Polish scholars conceptualize feminines as a derivational and semantic category of nouns denoting women, possessing morphological features of the feminine gender, expressing femininity, and predominantly derived from masculine nouns (Krysiak, & Małocha-Krupa, 2020, pp. 230, 234). This interpretation differs somewhat from that proposed by representatives of Polish academic linguistics, which encompasses all nouns capable of expressing femininity (Grzegorzczkova, 1999, p. 422). Wrocław researchers consider the term '*feminative*' (they use the variant '*feminative*') to be apt and convenient for describing the category of feminativity within a single linguistic system and in contrastive studies (Krysiak, & Małocha-Krupa, 2020, pp. 232–235). P. Dubisz, in particular, affirms the appropriateness of using the term '*feminative*' and emphasizes that all nominations of women, beginning from Proto-Slavic, can be interpreted as feminatives. He interprets the lexeme '*feminative*' as a linguistic term artificially created for the needs of linguistic science, specifically to denote the aforementioned category of nominations, meaning 'a feminine noun typically motivated by a masculine noun'; the orthographic form '*feminatyv*' is used in this case. According to this researcher, although names for women have undoubtedly been present in the Polish language since its inception, their understanding and proper perception are conditioned by a certain expansion of women's field of activity and employment and increased participation in public life. This process began during the Enlightenment, intensified in the interwar and post-war periods (20th century), and has deepened today due to political, moral, civilizational, and other changes of the 21st century (Dubisz, 2021, pp. 112–113).

Czech linguists are also actively developing the field of feminist linguistics, as the Czech language represents an environment where the tendency to create parallel masculine and feminine nouns is most regularly and consistently maintained, with a clear correlation between them in terms of semantic and functional-stylistic features. The Czech language distinctly demonstrates long-standing achievements and established traditions in feminine formation, with instances of gender asymmetry in expressing personal meaning reduced to a minimum across various forms of the national language. Throughout most of the 20th century, the Czech linguoculture systematically employed common appellations for both women and men. Discrepancies in the methods of correlating masculine and feminine nouns were overcome in the first half of the 20th century, and the appropriate status of feminatives, equivalent to that of masculinatives, was established. Since then, the process of derivational feminization has become normative for the Czech language. Consequently, the correlativity of masculine and feminine nouns for expressing personal meaning is a productive, vibrant phenomenon in the word-formation system of contemporary Czech (Hrushkova, 1967, p. 551; Shticha, 2018). In Czech feminist linguistics, as in Polish, the term '*feminative*' (*feminatyv*) has entered the metalanguage of the discipline. Its activation and even prevalence can be observed at the beginning of the 21st century, when, due to the intensified creation and usage of feminine personal nouns, research in the field of feminine word formation has also intensified (Arkhanhelska, 2022).

Beginning from the 4th century, as researchers emphasize, the Czech language spread across ***the Slovak linguistic*** terrain, where it began to be used as a literary language. This dominance of the Czech language persisted almost until the end of the 20th century when feminine formations became more active. Since the establishment of the Czechoslovak Republic, the Czech language, with its tradition of regular and consistent feminine formation, has systematically influenced the Slovak language (Machek, 2022, p. 210). In grammatical and word-formation studies of the Slovak language in the 20th century, the phenomenon of creating correlative masculine and feminine nouns with personal meaning was thoroughly described, with the exception of words expressing specific characteristics of men or women (status, activity, position) (Horecký, 1949; Dvonč, 1972).

When examining the peculiarities of feminine formation in the Slovak language compared to Ukrainian, linguists note that the processes of feminization in Slovak are more regulated and codified. In cases where Ukrainian demonstrates limited or unstable feminine formation, Slovak consistently develops feminine correlates to masculine nouns, especially borrowed ones (suffixal or compound), which, moreover, function across all styles of the Slovak language (Shpir'ko, 2010).

The issue of feminines has been actualized in studies focused on **Sorbian languages**, which have preserved numerous inherent and specific word-formation types. These types continue to be used today to create structurally diverse nouns denoting female persons. Similar to other West Slavic languages, the formation of correlative masculine and feminine nominations is normative in Sorbian languages, with minor exceptions, as in other languages, when referring to specific characteristics of women or men. Ukrainian linguist I. Kovalyk (1964) also contributed to the study of noun word formation in Sorbian languages, dedicating a specific investigation to the word-formation category of feminine personal nouns in contemporary Lower Sorbian (Kovalyk, 1963, pp. 23–29). Analysis of lexicographic and grammatical works by Slavists who have studied Lower Sorbian allows for the assertion that this language possesses the largest number of word-formation types actualizing corresponding derivative feminine suffixes. This language demonstrates the characteristic formation of feminines not only from parallel masculine nouns but also from other parts of speech as derivational bases, for which derivative morphemes are employed.

The South Slavic Tradition of Feminisation Research

The development of the word-formation system in **South Slavic languages** has been significantly influenced by ancient literary traditions, which favoured masculine nouns for general personal reference. However, with the establishment of distinct national tendencies, literary languages gradually began to incorporate authentic colloquial elements, including parallel masculine and feminine formations. Notably, the Bulgarian Revival period was characterized by democratization, autochthonisation, and a departure from ancient Church Slavonic or other foreign models (Baltova, 2010, pp. 26–34). Under the influence of colloquial speech, the formation of correlative masculine and feminine appellations intensified in **the Bulgarian language** from the time of the Bulgarian Revival. Nevertheless, the literary language continues to employ masculine nouns for general personal reference to this day. Bulgarian scholars began to pay attention to the category of feminines as a distinct lexical group in the second half of the 20th century, with increased interest from the late 20th century due to the intensified creation of corresponding nominations. L. Ivanova (1984) discusses the peculiarities of Bulgarian feminine formation, which reflects women's emancipation. V. Radeva (1991) dedicated her work to the study of word formation in the Bulgarian literary language. She later examined common and distinctive features in the formation of family-related vocabulary at the Slavic level, demonstrating that the Bulgarian language possesses a rich and diverse system of women's appellations, primarily prevalent in dialectal speech (Radeva, 2010, pp. 236–246).

In contemporary **Macedonian**, emerging trends observable across its functional styles reflect the connection between ancient and current word-formation processes. Within conversational speech, feminine forms are being formed and disseminated, primarily derivatives with suffixes such as *-ка* (*-инка*), *-ица*, and *-(н)ица* / *-(н)ичка* (Aryzankovska, 2010, p. 20). Analyzing the derivation of nouns in Macedonian, Koneski characterized and identified feminine nouns that are predominantly derived from masculine nouns (both derived and non-derived) and belong to modification formations. The aforementioned researcher identified the most productive feminine derivational suffixes, namely *-ка*, *-инка*, *-ица*, *-(н)ица*, and *-(н)ичка* (Koneski, 2003, pp. 65–67).

In the field of feminine derivation in **the Serbian language**, significant works have provided a rationale for modification derivation as a method of gender differentiation of words or as a means of forming feminine lexemes from masculine ones and have characterized productive and less productive suffixes (Chorych, 1982, pp. 65–67). Ten primary derivational means of varying productivity that express motion and participate in the derivation of feminine nouns have been identified (Chorych, 2008, pp. 197–202). Researchers have examined the characteristics of how feminine forms become grammaticalized (Pyper, 2014). R. Drahychevych observed that Serbian is characterized by a large number of connotative nominations, among which there are notably more attributive masculine nouns with negative connotations and a significantly smaller number of similar feminine nominations. According to the scholar, this phenomenon is due to the mental and psychological characteristics of Serbian speakers (Drahychevych, 2010, pp. 75–84), which would be worthwhile to trace in the material of other Slavic languages. Studies on

feminine derivation in Serbian reveal that new feminine terms are actively being developed, indicating that Serbian speakers are engaged in this process (Drahychevych & Utvych, 2019, pp. 185–200).

The study of feminine forms in *the Slovene language* dates back to grammatical works of the 16th century (Markezhich & Breznik, 2021, pp. 52–58). I. Breznik and T. Markezhich have proposed a historiographical, sociolinguistic, linguocultural, and linguistic investigation of this category of words as they appear in Slovene (Markezhich & Breznik, 2021). The authors' achievement lies in their identification of the functional productivity of feminine suffixes using a corpus-based method, which enabled a relevant and accurate statistical representation of the actual usage of feminine forms in various Slovene speech styles. The linguists note that the modelling of feminine forms reflects a distinct derivational capacity of the Slovene language: they present a system of suffixes traditionally used to form feminine nouns, including *-a/-á, -ica/-íca, -ja, -ulja, -inja/-ínja, -ka, -(ov)ka, -ična*. Among the productive forms, two methods are distinguished: the *adaptive* method (adding the feminine form to the masculine form) and the *substitutive* method (replacing part of the masculine form with a feminine counterpart) (Markezhich & Breznik, 2021, pp. 9–10).

Scholars in linguistics have established that *the Croatian language* exhibits a relatively high degree of feminitive formation, which, in their opinion, is attributed to well-known extralinguistic and linguistic factors (Shtebin Golub, 2014, pp. 460–478). Researchers of Croatian word formation characterize feminitives as a phenomenon of derivational modification, identifying specific methods of feminitive derivation and characteristic word-forming means. They indicate the peculiarities of their valency with corresponding masculine noun stems and are convinced that this phenomenon is acquiring a regular and consistent tradition in the Croatian language (Shtebin Golub, 2012, pp. 50–51).

Conclusions

Equality between men and women is an integral part of humanity's progress, a cornerstone of democracy, and a crucial condition for its development. For a long time, women were alienated from power, restricted in rights, and unable to fully realize their rights. Only within the framework of building legal states, where not only equal rights but also equal opportunities for their realization are genuinely ensured through various organizational and legal means, is the principle of equality of human rights and freedoms established. This is motivated by the modern moral and ethical foundations of the ontology of human life.

Awareness of gender discrimination, which is reflected through linguistic means, its acknowledgment, and the evidence of its existence, is a complex cognitive activity determined by a set of cultural and historical traditions, including patriarchal stereotypes of speech behavior.

The actualization of sociolinguistic factors mentioned in the introductory part of this article, as demonstrated, has influenced the activation of feminization in Slavic languages, albeit to varying degrees due to the specific manifestations of these factors.

This fragmentary and aspectual review of research experiences in feminist linguistics within Slavic philology demonstrates that linguistic Slavistics is grounded in robust traditions, while contemporary feminitive issues are garnering increasing interest and discussion, as evidenced by numerous linguistic and interdisciplinary studies.

The examination of the historical development of the feminitive category stands as the most crucial argument in elucidating the feminization process as an inherent linguistic phenomenon. This historical perspective provides insights into the motivations underlying the possibility or impossibility of regularly forming general terms for female individuals from masculine terms.

The feminitive subsystem of each Slavic language is built upon a rich common Slavic foundation, which has preserved inherent features (a system of appropriate suffixes for forming feminine nouns, developed in each Slavic language, albeit to varying degrees) while simultaneously developing specific national linguistic characteristics (inherent word-formation models, corresponding morphemic means). This is further facilitated by the manifestation of extralinguistic mega-factors, including the Russo-Ukrainian war, which has motivated the emergence of numerous neofeminitives in the Ukrainian language. Moreover, let us emphasize Ukraine's European choice, which also stimulates the spread of feminine forms. In Ukraine, we observe the activation of the women's movement, Femen. The women's movement in Western Ukraine

was revived over a hundred years ago. Today, the high consciousness of women at that time, their courage, and their determination to defend their rights are striking. What is great is seen from a distance, through the lens of time, and today the women's movement that took place in Galicia at the end of the 19th and the beginning of the 20th century is regarded exclusively as a European, progressive phenomenon. This, evidently, also partly explains the activity of feminine forms in the Ukrainian language, in contrast to other East Slavic languages – Russian and Belarusian. In Russia and Belarus, the feminist movement has not been observed; it is virtually absent today and was not present in the past, which is clearly motivated by the lack of a sufficient level of democracy in these countries. And feminism is an essential component of democratization, modernization, and intellectualization of society.

The novelty of this scientific study is motivated by the fact that, based on the aspectual-fragmentary analysis of scientific literature (from the mid-20th century to the present) dedicated to (a) the issues of the peculiarities of the formation and development of linguofeminology, including (b) the development of its methodological foundations; tracing (c) the unique functioning of feminisms in Slavic languages carried out in a diachronic-synchronic perspective. In accordance with the research objective, it has been shown that (1) linguofeminology is a syncretic scientific field that, in recent years, has been actively developing in connection with both modern and traditional linguistic directions and branches of linguistics; (2) the expansion of the methodology of this scientific field is observed, motivated by the changing status of women in the modern world; (3) certain contentious issues in the theory and practice of linguofeminology have been identified (trends toward their resolution are shown); (4) the findings of leading linguogenderologists regarding the general trends in the spread of feminatives in the Slavic linguistic space have been summarized; (5) research approaches and aspects of studying feminatives in Slavic linguistics have been characterized; (6) the leading tendencies of the feminization process occurring in the Slavic linguistic space have been identified (their prevalence in speech styles, the presence of variants, efforts toward codification, an increase in their number, which leads to the elimination of gaps in the gender opposition of male and female designations).

It should be noted that the study of the peculiarities in the process of feminine form formation in different Slavic languages is insufficient, somewhat sporadic, and awaits further development nowadays. There is a lack of contrastive studies and specialized lexicographical publications.

Research in feminist linguistics is motivated by the study of how processes generate and disseminate nouns for female individuals, particularly in relation to nouns for male individuals. This phenomenon is evident in nearly all Slavic languages today and is influenced by both linguistic and extralinguistic factors.

As evidenced by the work of linguogenderologists, (1) West Slavic languages surpass East and South Slavic languages in terms of feminine formation activity. (2) South Slavic languages more consistently preserve literary written traditions, (3) to which East Slavic languages also tend. Still, the feminization process in them occurs more restrainedly, (4) except for the Ukrainian language, which is close to the general national practice of creating parallel masculine and feminine nouns observed in West Slavic languages. (5) Russian and Belarusian linguistic science adopts a conservative stance on the phenomenon of feminization. It views the masculine gender as a universal, indefinite, and unmarked grammatical category that denotes personhood in the literary language, irrespective of sex.

In Slavic studies, the aggregate of common feminine nouns is examined as an abstracted quantity, a unified category of feminativity, allowing for the systematic classification and analysis of nominative units denoting female persons. The category of feminativity is a generalized abstract concept with subordinate interrelated components united by the common meaning of 'female person'. It is considered a morphological quantity (lexico-grammatical category of nouns), a derivatological one (word-formation category of person), and a lexico-semantic one (as a corresponding macrosystem of words united by a common lexical meaning).

The growing role of women in society has become not just evident but a fully real and progressive phenomenon observed across all Slavic languages. Therefore, linguogenderologists' primary focus is on recording the process of corresponding lexical system renewal, implementing new language policies, standardizing correlative feminine and masculine nouns, and appropriately lexicographing feminatives.

The feminization process is regular and irreversible in most Slavic languages: there are no observations regarding the excessive manifestation of this process, the emergence of unmotivated variability, forced

feminine formation, or risks in restoring and developing the specified word system. However, this process is also critically evaluated: research discussions are ongoing, motivated by the presence of various concepts in perceiving the feminization process.

The use of masculine forms to denote professions shifts gender identification, and depending on the level of gender equality, as well as the establishment of some new language functioning trends – such as the democratization of norms, expansion of variability, stylistic reorganization of linguistic units, etc. – the situation is gradually being equalized.

The manifestation of feminism in language, as shown, is also conditioned by the gender national program, which is motivated by universal categories and the national specifics of their transformation. However, masculinity and femininity today are not so much opposing categories as they are dialectically connected. At the same time, new phenomena are emerging, such as unisex, which is uniquely presented in language and requires further study.

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Universal design principles for emergency remote teaching: educators' perspective in higher education

Принципи універсального дизайну для дистанційного навчання в надзвичайних ситуаціях: погляд викладачів у вищій освіті

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Abstract

The COVID-19 pandemic and the war in Ukraine have forced a shift towards emergency remote teaching (ERT), highlighting the need for inclusive and accessible learning environments. This study explores the application of Universal Design for Learning (UDL) principles in ERT, focusing on educators' perspectives in higher education institutions. A mixed-methods approach was used, involving 129 educators from two major Ukrainian universities. Quantitative data from a 5-point Likert scale questionnaire and qualitative data from open-ended responses were analyzed. Findings indicate a positive perception of UDL principles among educators, particularly in promoting student motivation, engagement, and autonomy. However, challenges remain in providing multiple means of representation and ensuring equitable access to technology. This study provides valuable insights into the potential of UDL to enhance ERT quality, emphasizing the need for ongoing faculty development and support.

Анотація

Пандемія COVID-19 та війна в Україні спричинили перехід до дистанційного навчання в надзвичайних ситуаціях (ДННС), що підкреслило важливість створення інклюзивного та доступного навчального середовища. Це дослідження вивчає застосування принципів універсального дизайну для навчання (УДН) у контексті ДННС, зосереджуючи увагу на перспективах його використання викладачами закладів вищої освіти. У дослідженні використано змішану методологію, яка включала участь 129 викладачів з двох великих українських університетів. Проаналізовано кількісні дані, зібрані за 5-бальною шкалою Лайкерта, а також якісні дані з відкритих відповідей. Результати свідчать про позитивне ставлення викладачів до принципів УДН, особливо в частині сприяння мотивації, залученості та автономії студентів. Водночас залишаються труднощі з наданням різноманітних засобів представлення матеріалу та забезпеченням рівного доступу до технологій. Це дослідження підкреслює

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Keywords: emergency remote teaching, higher education, teaching and learning in crisis, universal design, universal design for learning.

потенціал УДН для покращення якості ДННС, наголошуючи на необхідності постійного розвитку та підтримки викладачів.

Ключові слова: дистанційне навчання в надзвичайних ситуаціях, вища освіта, викладання та навчання в умовах кризи, універсальний дизайн, універсальний дизайн для навчання.

Introduction

This article provides an overview of the challenges faced in higher education due to the dual pressures of the COVID-19 pandemic and the war in Ukraine. It also introduces the concept of universal design for learning and its relevance in emergency remote teaching. Following this, the methodology section outlines the qualitative and quantitative research methods used to gather data from Ukrainian educators. The findings and discussion sections present the results of the study and analyze the implications of these findings in relation to universal design principles. Finally, the conclusion offers practical recommendations for educators and policymakers, emphasizing the importance of resilient and inclusive educational practices in the context of ongoing crises.

Background

The third decade of the 21st century has been marked by a multitude of unprecedented social, economic, and political challenges that have significantly impacted the education system, particularly higher education. The implications of this impact are evident in the adoption of more innovative and flexible approaches to teaching and learning methods. The COVID-19 pandemic has accelerated the digitalization of higher education and remote teaching. As a result, there has been an increase in the complexity of classroom management, greater flexibility in student-teacher and student-student interactions, and heightened time demands in course and lesson design. However, the majority of countries returned to traditional face-to-face teaching with a wider use of digital technologies. In Ukraine, however, the beginning of the full-scale Russian invasion meant that most learners were once again forced to continue their education online. This dual pressure of pandemic and war drives the need for sustainable, adaptive, and resilient educational practices that can withstand long-lasting effects of such challenges.

Educational Disruptions Amidst War

The onset of military action in Ukraine has brought about a whole new set of educational challenges to address. These challenges included safety concerns. For example, students and educators faced physical safety threats caused by air raid sirens and shellings, making it challenging to focus on learning and teaching. There was limited access to educational resources due to frequent interruptions in internet connectivity and blackouts, making it difficult to access online resources and participate in virtual classes. Additionally, the absence of a structured learning environment oftentimes led to decreased motivation and self-discipline. Those who fled the country experienced issues of limited and/or asynchronous communication due to working across different time zones. Trauma-related issues affected students' and educators' mental health and ability to concentrate and engage in learning effectively. Displacement and increased family responsibilities due to war-related disruptions further compounded the challenges. Lastly, there was a change in students' attitudes towards the value of higher education and their career prospects due to the risk of prolonged conflict.

Research Objectives and Scope

This paper aims to address the pressing issue of how the combination of these challenges has affected teaching and learning in Ukraine, as well as the potential long-term consequences. Drawing on qualitative and quantitative data collected from a sample of educators from higher education institutions in Ukraine, this study aims to achieve the following research objectives: a. explore the ways in which emergency remote teaching has affected teaching and learning practices; b. consider the potential impact of the principles of universal design for learning on the quality of higher education and the educators' perceptions of the value of these principles for emergency remote teaching; and c. provide practical recommendations for educators

and policymakers to enhance the effectiveness and inclusivity of emergency remote teaching, both in Ukraine and beyond. The study aims to achieve these objectives by analyzing the experiences of educators in Ukraine. This analysis will contribute to a deeper understanding of the challenges and opportunities associated with emergency remote teaching in extremely challenging circumstances.

Responding to Educational Challenges with Universal Design

In this new reality, education must adapt and maintain the quality of learning and teaching practices to meet the demands of the emergency remote context. The urgency of new developments highlights the need to research and identify effective strategies for digital learning and teaching. Although individual aspects of this problem require further investigation, we believe that addressing emergency remote teaching in a unified manner deserves immediate attention, given the current circumstances in Ukraine. The rushed transition to emergency remote teaching has led to a perception that online learning is once again considered a subpar choice. However, implementing the use of universal design principles for learning can assist educators in creating more accessible and engaging learning experiences that can benefit all learners, regardless of their abilities or backgrounds.

In this study, universal design for learning is viewed as an approach to teaching and learning that provides all learners with equal opportunities to succeed by utilizing a variety of teaching methods to eliminate any barriers to learning. The paper also focuses on emergency remote teaching, which refers to the temporary shift of instructional delivery to an alternate mode in response to crisis circumstances (Hodges et al., 2020).

Significance and Implications of the Study

The study contributes to the ongoing discussion on how to enhance the quality of higher education and increase its accessibility and inclusivity, particularly in the context of emergency remote teaching. By examining the applicability of universal design principles in this context, the study can help identify ways to enhance teaching and learning for all students, including those with disabilities or diverse learning needs. The findings suggest the importance of implementing universal design for learning in higher education to promote accessibility, flexibility, and inclusivity. By applying the principles of universal design of learning to course design for emergency remote teaching, educators can improve the quality of teaching and learning in various learning environments and address the diverse needs of students in a rapidly evolving educational landscape.

The findings also have implications for policy and practice, as they can inform the development of guidelines for emergency remote teaching and the integration of technology in higher education. Ultimately, the goal of this study is to provide practical recommendations for educators and policymakers to improve the effectiveness and inclusivity of emergency remote teaching, both in Ukraine and globally.

Literature Review

This section highlights the critical role of higher education in ERT, focusing on the need for inclusive and flexible teaching strategies. It emphasizes the importance of UDL principles to address diverse student needs, promote equity, and ensure effective learning outcomes. The review discusses how digitalization has expanded access to education, while also acknowledging the challenges of ERT, such as complex course design and limited student-teacher interaction. It concludes that ERT, when informed by UDL, can foster more adaptable and inclusive educational practices, improving both accessibility and learning quality, especially during emergencies.

Higher education's shifting priorities in response to emergency remote teaching

Higher education must play an essential role in transforming both learning and teaching, requiring professionalism from all stakeholders. Bucklow and Clark (2000) suggest in their work that changes and developments in learning and teaching in higher education must ensure the quality of students' learning experiences. In the situation of emergency remote teaching, it is inevitable that classroom management has become much more complex. The interaction between students and teachers, as well as among students, has become much more flexible. Additionally, course and lesson design have become much more time-consuming. This prompts us to revisit the principles of universal design as a means of removing barriers to learning and ensuring equal opportunities for all students, especially in the context mentioned.

As digitalization continues to provide wider access to higher education, its benefits are not limited to education alone but also extend to employment opportunities, entrepreneurship, and innovation in the labour market. According to UNESCO, increasing access to education is crucial for future prosperity, as the global number of students in tertiary education is projected to surpass 260 million by 2025. The availability of open access to education for all learners maximizes the impact of education on society, making it crucial to ensure its success and sustainability (UNESCO, 2015). In light of this, Ukraine is working diligently to support educational institutions and sustain the teaching and learning process. The country acknowledges the critical role of education in shaping the future of its citizens and society.

Digitalization, access, and inclusion in higher education

Improving the quality of education, especially in higher education, requires a systematic approach that incorporates advancements in digitalization and technology into educational management and teaching. Recent advances in digitalization have made significant contributions to research on online tools, platforms, instruments, and technologies in Ukraine and beyond (Syzenko, 2016; Castañeda & Selwyn, 2018; Bozkurt, 2020; Bilytska et al., 2022; Sulym et al., 2023). As a result of these developments, remote teaching practices have become more complex, online tools have become more widely used, and interactions between educational stakeholders have become more open due to the increasing accessibility of the Internet and smart devices. In view of these advances, the risks and benefits of remote teaching are being actively researched, and many of its aspects have received considerable attention from scholars worldwide. Hodges et al. (2020) and colleagues have explored the differences between emergency remote teaching and online learning (Hodges et al., 2020), while Bond (2021) has identified the specific features of emergency remote education at the secondary school level and mapped the emerging field of research in higher education (Bond et al., 2021). Most recent studies into emergency learning suggest that a variety of learning resources play a crucial role in ensuring higher attainment rates (Castañeda-Trujillo & Jaime-Orsorio, 2021; Balderas-Solís et al., 2022) and emphasize the importance of developing educators' digital competencies to enhance the quality of higher education (Santos et al., 2022).

Inclusion is taking on a new perspective, as learners may face exclusion from the learning process due to various issues, including physical displacement, limited internet access caused by Wi-Fi jamming or electricity blackouts, threats to physical health, and emotional traumas. Educational institutions are now exploring the advantages of universal design for learning (UDL) to cater to the diverse educational needs of students. Research is also being conducted to explore the potential for increased successful participation in demanding academic programs and careers, such as those in science, engineering, mathematics, and technology (Burgstahler, 2021). The latest studies on ensuring quality in higher education classes delivered remotely conclude that UDL has the potential to improve online learning efficiency and guarantee a desirable online learning experience and quality (Altameemi & Alomaim, 2022). One of the greatest benefits of UDL is that it helps promote inclusion in online learning (Hu & Huang, 2022).

Universal design principles in emergency remote teaching

The UDL theory draws inspiration from the architectural concept of universal design, which emphasizes the design of products and environments that are accessible to all (The Center for Universal Design, 1997). Grounded in Vygotsky's theory, which emphasizes the role of social interaction in cognition (Vygotsky, 1978), UDL has evolved as a response to research that has revealed the limitations of a 'one-size-fits-all' educational approach, especially in meeting the diverse needs of students (Rose & Meyer, 2002). With the aid of advancements in cognitive science and neuroscience, UDL explores how students learn, including memory, language processing, perception, thinking, and problem-solving (Dalton, 2017). UDL is framed as a flexible framework that addresses the obstacle of rigid curricula hindering learner development (CAST, 2011). It emphasizes inclusivity, suggesting that barriers arise from inflexible teaching methods rather than from student capabilities. UDL's evidence-based approach consists of two layers: the conceptual layer, which includes recognition, strategic, and affective networks. These networks involve categorization, thought organization, and engagement, respectively (Al-Azawei et al., 2016).

Universal design principles for emergency remote teaching in higher education can be examined from various perspectives, taking into consideration the framework provided by the Center for Applied Special Technology (CAST, 2018).

Class climate: This category refers to practices that reflect high values regarding diversity, equity, and inclusion (CAST, 2018). In an emergency remote teaching context, it becomes even more crucial to ensure a positive class climate with a strong commitment to diversity, equity, and inclusion. Beyond physical access to lecture rooms, this also includes ensuring equal access to online platforms and resources. Additionally, offering customizable learning paths and flexible assessment methods respects diverse learning styles and abilities. Facilitating regular virtual office hours and discussions promotes an inclusive environment where students can voice their concerns. In remote settings, fostering a sense of belonging through active participation in online discussions and collaborative projects helps to create an equitable and supportive learning atmosphere. By emphasizing empathy and understanding, instructors can proactively address barriers that students might face, ensuring that every learner feels valued and included in the digital classroom.

Physical environments and products: It ensures that facilities, activities, materials, and equipment are physically accessible and usable by all students. Additionally, safety considerations should take into account the diverse characteristics of potential students (CAST, 2018). In the context of emergency remote teaching, this category assumes new implications. Safety considerations extend beyond physical spaces to encompass the online realm. In situations where internet access is unstable, it is advisable to implement alternative measures, such as offering downloadable content for offline use. Clear communication of safety procedures becomes vital, not only for physical activities but also for navigating the online learning environment. Remote teaching must be flexible to address the diverse potential challenges students may face, such as limited internet access or varying time zones. Offering asynchronous learning options, recording lectures, and providing multiple communication channels helps accommodate different circumstances.

Multiple means of engagement: It implies regular and effective interactions between students, with multiple communication methods accessible to all participants (CAST, 2018). In emergency remote teaching, this category requires adaptable strategies that facilitate diverse interactions through accessible communication methods. An example could be the implementation of group projects that involve a diverse range of skills and roles, promoting engagement. It is important to ensure that all participants can contribute effectively, fostering collaborative learning in the virtual environment.

Multiple means of representation: This mostly refers to a variety of instructional methods that are accessible to all learners (CAST, 2018). In emergency remote teaching, this category requires versatile approaches. This should involve utilizing different modes of content delivery, providing options for learning methods, involving students through lectures, collaboration, hands-on activities, online communication, software, and fieldwork, ensuring that all learners have access to diverse instructional pathways, and enhancing motivation and understanding in the remote learning environment.

Information resources and technology: This category suggests that course materials, notes, and other information resources should be engaging, flexible, and accessible for all students (CAST, 2018). In emergency remote teaching, this category requires adaptable practices. An example could be developing an accessible syllabus in advance, allowing students to prepare and arrange alternative formats. This would also involve student-centered communication and ensuring engaging, flexible course materials and notes that cater to diverse learning needs. It is important to enable equitable access for all learners in a remote environment.

Multiple means of action and expression: This category is centered on the regular assessment of students' progress, providing specific feedback on a consistent basis using various accessible methods and tools, and adjusting instruction accordingly (CAST, 2018). In emergency remote teaching, this category involves continuous assessment, personalized feedback, and adaptable instruction. Since more support might be needed, it is advisable to regularly assess student progress and provide specific feedback using a variety of accessible tools. Adjusting teaching based on feedback is another option for supporting learners. Allowing interim submission of assignments and project parts for guidance before the final deadline will promote more effective learning and achievement in a remote setting.

Accommodations: This category deals with accommodations for students whose needs are not fully met by the instructional content and practices (CAST, 2018). In emergency remote teaching, this category includes students with diverse needs, including those who do not have access to reliable internet. Providing alternative material formats and diverse interaction options is necessary for equitable participation.

Addressing individual requirements is crucial to ensuring that all learners can effectively engage in the remote learning environment, thereby preventing the loss of desired learning outcomes during emergency circumstances.

Universal design principles are highly applicable in emergency remote teaching contexts, where educators and learners are compelled to teach and learn in various physical, economic, geographical, and technological circumstances. In tertiary education, principles such as multiple means of engagement, multiple means of representation, information resources and technologies, and multiple means of action and expression are of immediate and critical importance for course and lesson design.

In this paper, we focus on universal design principles that are primarily implemented by educators. These principles aim to enhance interaction with learners and improve the overall quality of teaching and learning. CAST has formulated three core principles aimed at addressing diverse learning needs (Hall et al., 2003). The principle of multiple means of representation pertains to the “how of learning,” utilizing diverse methods to present content and accommodating recognition learning. Multiple means of expression, related to the “what of learning,” grant students’ diverse ways to showcase knowledge, facilitating strategic learning. The engagement principle, which focuses on the “why of learning,” provides various options for engaging in effective learning.

By studying the experiences and perceptions of educators, this study aims to provide guidelines and practical implications for better supporting educators in managing remote teaching. The study also seeks to apply universal design principles and address the personal impact of different emergency situations. As emergency remote teaching requires continuous revision and improvement of instructional practices, educators become primary agents who can introduce systemic changes to evolving educational needs.

Moreover, this study attempts to enhance understanding of the practical impacts of ERT on UDL-informed teaching practices teaching as a certain debate persists among scholars with regard to risks associated with inability to incorporate UDL principles effectively. Additionally, there are concerns that the focus on ERT might divert attention and resources away from sustained UDL efforts in favour of short-term solutions. Conversely, we argue that ERT may provide an opportunity to apply UDL principles more broadly and creatively, leading to more adaptable and inclusive educational practices, however as the findings of this study suggest, to this end a significant commitment is required from educators.

A key debate in the literature on technology use in education during crises revolves around the balance between the urgent adoption of ERT and the long-term application of UDL principles (Hodges et al., 2020; Bond, 2021). While ERT offers immediate solutions, its focus on short-term responses and the rush to implement ERT could detract from sustained efforts to innovate pedagogy, suggesting that a long-term commitment to UDL could be compromised. However, others see the crisis as an opportunity for more sustainable integration of UDL, which is essential for inclusivity and accessibility in education (Markou, & Díaz-Noguera, 2022).

As demonstrated by literature review, there is considerable scholarly interest towards the intersections of universal design and emergency remote learning and teaching, which allows us to seek better understanding of challenges and opportunities in applying both in emergency environments. We conclude that application of UDL principles in higher education may have significant benefits for the quality of learning, particularly in emergencies, and help ensure equitable access to education by addressing issues of inclusivity and adaptability. The key, in our understanding, lies in balancing immediate needs with long-term goals, ensuring equitable access, and fostering innovative pedagogical practices.

In conclusion, UDL offers significant potential in making ERT more inclusive and adaptable, yet debates remain about balancing immediate ERT needs with sustained UDL efforts. In higher education, a strategic approach is necessary to ensure the long-term adoption of UDL principles is essential for transforming education in a way that addresses diverse learner needs.

Methodology

The study is based on qualitative and quantitative data collected from 129 educators representing 16 fields of knowledge. These fields include education, humanities, social and behavioural sciences, economics, international relations, management, public administration, sciences, healthcare, law, construction and

technologies, IT, electrical engineering, electronics and telecommunications, civil defense, and chemical and bioengineering. The data was collected from the two largest higher educational institutions in Ukraine. The purpose of the questionnaire was to analyze the current situation in academia, examine participants' attitudes and beliefs towards applying principles of universal design to course design, and identify how this affects emergency remote teaching in higher education. In this study, our aim was to determine whether applying the principles of universal design for learning, which include providing multiple means of engagement, representation, action, and expression, to emergency remote teaching can assist educators in improving teaching and learning outcomes by addressing the diverse needs of students in various learning environments. As the majority (79%) of the respondents are between the ages of 35 and 54 and have 10 to more than 20 years of working experience, we can conclude that the survey results reflect the perspectives of experienced educators who have worked in higher educational settings for a significant amount of time. To investigate the attitudes and experiences of educators, we developed an anonymous questionnaire consisting of 21 closed-ended statements. The statements were rated on a 5-point Likert scale, and participants were given the option to provide comments for each statement. The questionnaire was distributed online through the internal professional networks of two universities. Thus, the first principle, "Multiple means of engagement," is represented in the first section of the questionnaire by questions 1–9. The second principle, "Multiple means of representation," is covered by questions 10–14. Lastly, the third principle, "Multiple means of action and expression," is highlighted by questions 15–21. The English version of the questionnaire is presented in (Table 1).

Table 1.

Questionnaire: Universal design for learning in emergency remote teaching

Section 1–Multiple means of engagement				
Q1	Transferring to emergency remote teaching (ERT) had a considerable impact on my learners' motivation.			
	1 – strongly disagree	2 – disagree	3 – not sure	4 – agree
				5 – strongly agree
Q2	Transfer to emergency remote teaching (ERT) had considerable impact on my learners' personal coping skills and strategies			
	1	2	3	4
				5
Q3	When I invite learners to make their individual choices of learning strategies for remote learning, they become more purposeful.			
	1	2	3	4
				5
Q4	When I give learners more autonomy in their remote learning, they feel more committed.			
	1	2	3	4
				5
Q5	I feel confident in using a variety of tools and strategies for providing my learners with autonomy in their remote learning.			
	1	2	3	4
				5
Q6	I know how to minimize threats and distractions during remote learning to help my learners to stay focused on the task.			
	1	2	3	4
				5
Q7	When I show how collaboration can foster their remote learning, learners feel more motivated.			
	1	2	3	4
				5
Q8	When I explain the relevance and value of the task, learners demonstrate higher motivation.			
	1	2	3	4
				5
Q9	I feel confident in using a variety of tools and strategies for developing learners' self-assessment and reflection when learning remotely.			
	1	2	3	4
				5
Q10	Section 2 – multiple means of representation			
	When I transferred to ERT, I had to customize all the materials.			
	1	2	3	4
				5
Q11	My lesson materials for remote learning offer ways of customizing the display of information			
	1	2	3	4
				5
Q12	I ensure that the tasks in remote learning courses can be illustrated through multiple media			
	1	2	3	4
				5
Q13	I design the tasks so that they activate or supply background knowledge			
	1	2	3	4
				5
Q14	My lesson materials are designed so that they guide information processing and visualization in digital environment			
	1	2	3	4
				5
Q15	Section 3–Multiple means of action & expression			
	When I transferred to ERT, I had to revisit my approaches to supporting my learners practice and performance			
	1	2	3	4
				5
Q16	I know how to optimize access to tools and assistive technologies.			
	1	2	3	4
				5
Q17	When I teach remotely it is less challenging to vary the methods for response and navigation			
	1	2	3	4
				5
Q18	When I teach remotely it is less challenging to provide options for expression and communication			

	1	2	3	4	5
Q19	I feel confident in providing my learners with the tools and strategies for appropriate goal setting, planning and strategy development, managing information and resources for their remote learning.				
	1	2	3	4	5
Q20	ERT enhances capacity for monitoring my learners' progress				
	1	2	3	4	5
Q21	Applying the principles of multiple means of engagement, representation, action and expression to ERT improves and optimizes teaching and learning.				
	1	2	3	4	5

Results and Discussion

The results obtained in this study highlight significant challenges in emergency remote teaching, particularly in maintaining learner engagement and motivation. Overall, as findings demonstrate while some students adapted well, with increased responsibility and focus, a notable portion of educators encountered difficulties, especially with younger or less experienced learners. Offering autonomy and choices to students, while beneficial for many, also may lead to decreased participation and engagement for others. Furthermore, the transition exposes gaps in educators' skills, particularly in managing distractions, utilising digital tools effectively, and promoting active engagement. These challenges may give a better understanding of practical implications of emergency remote teaching in higher education settings in order to provide more targeted support to both learners and educators. In the section below we are going to look deeper into 'educators' experiences and interpret them from the point of view of UDL.

Multiple means of engagement

The findings suggest that 50% of the educators surveyed strongly agree and agree that the transition to remote teaching had a considerable impact on learners' motivation. They have become more motivated and focused on studying. However, 23% strongly disagree or disagree with this statement. Almost 27% neither agree nor disagree with this statement. Several respondents added additional comments to this statement, starting with the fact that remote teaching has had a positive impact on master students but a negative impact on first- and second-year bachelor students. They also mentioned that students have become more responsible, attendance has increased, and participation has improved. Additionally, they noted that average students have disappeared, and those who are truly motivated have become even more so. Several more mentioned that "the motivation does not depend on the format", "those who were motivated remained so." Another respondent reckoned that "new digital technologies have compensated for the lack of face-to-face contact."

62% of educators acknowledge that emergency remote teaching had a significant impact on learners' personal coping skills and strategies. Interestingly, respondents mentioned the impact of emergency teaching on their own coping strategies, recognizing that it "was an issue" and that "the transfer was not easy for me." Some mentioned that their previous experience with online learning during the COVID-19 pandemic has facilitated the transition, while others noted that "new skills have also brought new challenges."

When it comes to giving learners choices and autonomy in remote learning, the vast majority (over 78%) of respondents agreed or strongly agreed that this increases commitment and purposefulness in learning. Respondents commented that "students learn better when there are no boundaries set by the teacher," "choices help in making realistic decisions," and "everyone has to choose what is most convenient." However, the issue of autonomy raised concerns among 21% of those who disagreed with statement 4.

They commented that there should be no autonomy in selecting methods, syllabuses, or literature. They also mentioned that autonomy must be controlled and that too much autonomy leads to skipping lectures. Despite this, 73% of respondents feel confident in using various tools and strategies to promote learner autonomy in remote learning and believe that these methods "enhance student engagement." Here too, some mention challenges such as "students having very limited access to the Internet" and "the need for a variety of tools." Others mention the lack of their own repertoire of tools, starting with "I am experimenting, and if something works well, I try to use it regularly" and "I am still learning to use the tools."

Similarly, a vast majority of educators (79%) acknowledge the positive impact of collaboration on learners' motivation. They also recognize the importance of demonstrating the relevance and value of the task to promote higher engagement with it. Despite this overall positive attitude, there are those who comment that

“many prefer to work on their own. Learners themselves claim to be asocial and not wanting to work together.” Additionally, there is often no time to explain the value of a task.

Interestingly, 44% of educators recognize that they do not know how to minimize threats and distractions during remote learning and help learners stay focused on the task. Only 18% believe they know how to do it. Respondents mention a lack of experience and that they need to “go through trial and error” and “experiment” to achieve this aim. Finally, 64% of respondents feel very or quite confident in using a variety of tools and strategies to develop learners’ self-assessment and reflection skills when learning remotely. They comment that “developing learners’ skills in giving and receiving feedback promotes the development of their competences” and “allows learners to evaluate their progress.” On the other hand, 36% of respondents feel less confident and report limited use of self-assessment and reflection tools and strategies in remote teaching.

Overall, the findings suggest that multiple means of engagement prove to be beneficial for both educators and learners in higher education. These means foster collaboration, individual choice and autonomy, relevance and value of tasks, and authenticity of course materials. Additionally, they minimize threats and distractions in the educational process. Keeping up with this principle in course and lesson design offers opportunities for learners to regulate themselves, thereby increasing their motivation, facilitating the development of personal coping skills and strategies, and fostering self-assessment and reflection.

Multiple means of representation

According to the UDL principles, a variety of means of representation is vital for ensuring equal access to learning and achieving learning outcomes. 48% of all respondents admitted that they had to customize all the materials when they transitioned to emergency remote teaching, while another 48% claimed that only some of the materials had to be customized. In response to this statement, some commenters mentioned that “customization occurs regularly” and is a “dynamic process.” Others mentioned that teaching strategies and approaches, rather than materials, required customization.

The vast majority (93%) of respondents agreed and strongly agreed that their lesson materials for remote learning offer ways to customize the display of information. Some respondents even mentioned that “more variety should be offered to learners.” However, a slightly lower number of respondents (80%) agreed that they ensure tasks in remote learning can be illustrated through multiple media. Many commented that “more effort could be taken in this respect” and that “more options should be provided.”

The statement regarding whether tasks are designed to activate or provide background knowledge received strong agreement from 53% of respondents and agreement from 32%. Comments from respondents emphasized the successful use of “integrated tasks” and combinations of “background knowledge and new knowledge activation.” Finally, 84% of respondents agree and strongly agree that their lesson materials are designed to facilitate information processing and visualization in a digital environment. Several respondents commented that “a lot depends on the discipline.”

While the findings of the survey suggest that most respondents are confident in their ability to provide various means of engagement in the classroom, it is important to consider that learners’ perspectives may differ. Therefore, a thorough study of learners’ experiences is necessary to draw any definitive conclusions on this matter.

Multiple means of action and expression

The variety of means of action and expression represents an important factor in the effectiveness of learning. 87% of respondents agree and strongly agree that they had to reassess their approaches to support learners’ practice and performance after transitioning to emergency remote teaching, while 18% of respondents admit that they are unsure how to optimize access to tools and assistive technologies. 42% of respondents agree that remote teaching makes it more challenging to vary the methods of response, and 34% admit that remote teaching has made expressions and communication more difficult in the remote environment. Comments suggest that despite the potential of many creative methods, there are often problems with connection, technical glitches, and other issues that can make it impossible at times. 29% of respondents admit that they do not feel confident in providing learners with the tools and strategies for appropriate goal setting, planning, strategy development, and managing information and resources for remote learning. Even a larger

share of respondents (32%) doubt that emergency remote teaching enhances the capacity for monitoring learners' progress. Commenters mention the deficiencies of video-conferencing tools and applications, as well as the lack of live communication with learners. Finally, almost 70% of respondents agree that applying the principles of multiple means of engagement, representation, action, and expression to ERT improves and optimizes teaching and learning.

Overall, the findings suggest that the vast majority of respondents demonstrate awareness of the importance of utilizing various methods of action and expression in remote emergency classrooms and express confidence in their ability to use them effectively. However, comments shed light on the fact that many educators also realize their limitations and acknowledge the need for training in using tools and technologies. They express a desire to develop their skills and competencies.

The data collected from responses to the questionnaire provided insights into educators' attitudes and experiences regarding the application of UDL principles to course design and remote teaching in emergencies.

The questionnaire structured around the three principles of UDL, namely multiple means of engagement, representation, and action and expression was intended to probe the perspectives of educators on the impact of emergency remote teaching on learners' motivation and coping skills, as well as on the effectiveness of strategies such as providing autonomy and multiple choices in learning.

The findings highlight the realization among educators of their limitations in using tools and technologies, and their expressed need for training to develop relevant skills and competencies. This is in line with findings of similar research conducted by Markou & Díaz-Noguera (2022) in secondary education, which highlights the necessity for tailored training and professional development for educators at all levels of education to effectively implement the UDL principles in their teaching practices with a focus on leveraging technology and modern teaching tools in the context of emergency remote teaching.

Effective use of UDL principles can potentially lead to improved engagement among learners, the development of coping skills in crises and emergencies, and autonomy and purposefulness in learning. This requires investing in UDL-based approaches to course design and emergency remote teaching making it a valuable resource for institutions, policymakers, and academic professionals. This study contributes to the need to advocate for the integration of UDL principles into higher education, aligning with the evolving educational landscape and the increasing significance of remote teaching methodologies.

A limitation of this study is the relatively small sample size of respondents, with 129 educators representing just over 3% of the total faculty from two universities. The rationale for the sample size is twofold. First, this study aims to provide an in-depth examination of the experiences and challenges faced by educators during the transition to emergency remote teaching in the specific context of armed conflict in Ukraine. By selecting a smaller, yet diverse, group of participants, we were able to gather qualitative and quantitative data that offer insights into the unique dynamics of this context. Second, the study also serves as an initial exploration of the application of UDL principles in this setting. In future research, we intend to address this limitation by expanding the sample size to include a larger and more diverse representation of educators in Ukraine. Additionally, we will evaluate how their attitudes towards UDL change over time. A comparative study with a larger sample can further validate the effectiveness of implementing UDL on a broader scale, especially in the context of crises and emergency remote teaching.

Recommendations

To enhance the quality of emergency remote teaching, it is crucial to focus on recommendations that prioritize raising awareness and implementing universal design principles. To achieve this, the following recommendations can be made:

1. *More awareness is needed to understand the principles of universal design and how they can improve the quality of remote emergency learning.*

The implementation of universal design principles can greatly enhance the quality of remote emergency learning. These principles encompass a variety of strategies and techniques that can guarantee the accessibility and usability of learning materials for all students, regardless of their backgrounds, abilities,

or learning styles. Educators must be made aware of the importance of these principles and how they can be applied in the context of remote emergency learning. By doing so, educators can ensure that all students have equal access to learning opportunities and can reach their maximum potential.

2. *Educators need training to develop the appropriate skills and master the necessary tools.*

Faculty-wide or university-wide guidelines would benefit both educators and students. To effectively cater to the diverse needs of learners in remote emergency learning, it is crucial that educators utilize multiple methods of presenting information. This can include a combination of text, images, audio, and video. However, educators must be trained to develop the necessary skills and master the appropriate tools in order to effectively utilize these multiple means of presentation. Faculty-wide or university-wide guidelines can ensure that educators are aware of the best practices in this regard and can effectively utilize them to cater to the diverse needs of learners. This would ultimately benefit both teachers and learners by improving the quality of remote emergency learning.

3. *Training is necessary to enhance teachers' skills in classroom management and methods of interaction in remote teaching environments.*

Effective classroom management and modes of interaction are essential for successful remote teaching. However, many educators lack the necessary skills and training in this area. Additional training in the form of webinars, workshops, and other resources can help educators develop these skills and become more effective at managing remote classrooms and interacting with students in virtual settings. Such training can help educators navigate the challenges of remote emergency learning and provide a positive and engaging learning experience for their students.

4. *Self-control and self-assessment should be incorporated into continuing professional development (CPD) programs for educators.*

Continuing professional development courses provide educators with opportunities to enhance their skills and knowledge. However, these courses often overlook issues of self-control and self-assessment, which are crucial for success in remote emergency learning. Educators should receive training in order to develop self-control and self-assessment skills. These skills will enable them to effectively manage their time and workloads, as well as evaluate their own performance in the context of remote emergency learning. By incorporating these issues into CPD courses, educators can enhance their overall effectiveness in remote emergency learning and provide a more enriching learning experience for their students.

To summarize, in response to the urgent need to improve the quality of emergency remote teaching in Ukrainian higher education, institutions should focus on building educator awareness of universal design principles. In particular, this can be achieved by delivering specialised training on multimodal information presentation (e.g., using advanced text, audio, and video tools), enhancing skills in virtual classroom management and interaction (e.g., using breakout rooms for group work, implementing digital tools for real-time feedback), creating university-wide best practice guidelines, and incorporate self-assessment and self-control techniques (e.g., reflective journals, time management workshops) within professional development programs.

Conclusions

UDL has been developing over the past 20 years, receiving significant recognition for its ability to support diverse learners. By combining UDL principles with ERT, this study highlights their potential to provide educators with both theoretical and practical tools to effectively address the needs of students, complementing existing research and offering actionable insights for future educational practices.

The findings of this study contribute to better understanding of where the educators stand when it comes to ensuring inclusivity and accessibility when faced with emergency remote teaching. Data collected from 129 educators who have first-hand experience of remote teaching in times of war sheds light on real challenges experienced in such circumstances and provides insight of what is needed to effectively support the quality of teaching in higher education. These findings complement existing studies in secondary education and allow policymakers to see the need and develop a comprehensive training and professional development programmes on UDL in emergency remote teaching for all levels of education.

Practically, effective use of UDL principles can potentially lead to improved engagement among learners, the development of coping skills in crises and emergencies, and autonomy and purposefulness in learning. This requires investing in UDL-based approaches to course design and emergency remote teaching making it a valuable resource for institutions, policymakers, and academic professionals. By fostering inclusive and adaptable learning environments, UDL can build resilient practices that equip students with problem-solving skills and empower educators to implement flexible teaching strategies, allowing both to effectively manage and sustain learning through unforeseen disruptions. This study contributes to the need to advocate for the integration of UDL principles into higher education, aligning with the evolving educational landscape and the increasing significance of remote teaching methodologies.

Overall, this study demonstrates that the quality of remote emergency teaching can significantly enhance learning experiences in challenging circumstances. Raising awareness of universal design principles ensures accessibility for diverse learners, while providing educators with training to master necessary tools and develop skills in classroom management enhances instructional effectiveness. Faculty-wide guidelines and continuous professional development that include self-control and self-assessment are crucial in fostering educators' ability to adapt to remote learning environments. By addressing these areas, institutions can ensure equitable access to quality education and support educators in delivering engaging, effective remote learning experiences for all students.

Finally, in order to truly understand whether the efforts taken by educators are sufficient to maintain the quality of higher education in remote environments, additional research is needed to examine the learners' perspective. This may yield some important insights similar to those in the latest study by Galarce-Miranda et al. (2022), where the findings assist in designing better and more effective methods to meet the evolving needs of learners (Galarce-Miranda et al., 2022). While educators may be implementing various strategies and techniques to ensure that learning continues uninterrupted in remote environments, it is important to determine whether these efforts are meeting the needs and expectations of students.

Future research on UDL should address challenges like traditional mindsets, limited digital resources, and technology integration, focusing on practical strategies for diverse contexts and ERT in particular. Studies could explore UDL's role in online education, multilingual settings, and inclusive practices, emphasizing administrative support, stakeholder involvement, and teacher training. Expanding the research base will help educators implement effective, inclusive practices globally.

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Analyzing creative metaphors in advertising: Integrating relevance theory and conceptual blending approaches

Аналіз креативних метафор у рекламі: інтеграція підходів теорії релевантності та концептуального змішування

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Abstract

This article introduces a hybrid model for analyzing creative metaphors in commercial advertising by combining Relevance Theory and Conceptual Blending Theory. The model's algorithm for metaphorical mapping considers contextual assumptions and relevance principles to select mental input structures for blending. The initial stage of explicature decoding, following Relevance Theory, identifies input mental spaces through reference assignment and content enrichment. In the Composition stage, an ad hoc source concept is adapted to the target, establishing metaphorical alignments within the blend. The blending's cognitive context involves abstract structures and vital relations in a generic space, rooted in human experience, to facilitate interpretations with minimal cognitive effort. At the Completion stage, contextual assumptions

Анотація

У статті пропонується гібридна модель для аналізу креативних метафор у комерційній рекламі, що поєднує інструменти теорії релевантності та теорії концептуального змішування. Алгоритм для отримання метафоричних відповідей враховує контекстуальні припущення та принцип релевантності, які пояснюють вибір структур із ментальних вхідних даних для проєкції у змішування. Початковий етап декодування експлікатур, що слідує за теорією релевантності, визначає вхідні ментальні простори через призначення референцій і збагачення змісту. На етапі композиції формується ад-хок концепт джерела, який адаптується до цілі, створюючи метафоричні відповідності у змішуванні. Когнітивний контекст змішування включає абстрактні структури та життєві зв'язки в

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about the brand's implied meanings generate new structures within the blend. Finally, the Elaboration stage incorporates assumptions about the brand's messaging, aimed at addressing the audience's motivational needs and encouraging them to fulfill these needs by purchasing the advertised product.

Keywords: metaphor, advertising, hybrid model of analysis, relevance theory, conceptual blending.

загальному просторі, що сприяють мінімізації когнітивних зусиль. На етапі завершення контекстуальні припущення щодо додаткових значень бренду генерують нові структури у змішуванні. Нарешті, етап розробки спирається на припущення про повідомлення бренду, спрямовані на задоволення мотиваційних потреб цільової аудиторії та заохочення їх задовольнити ці потреби шляхом придбання рекламованого продукту.

Ключові слова: метафора, реклама, гібридна модель аналізу, теорія релевантності, концептуальне змішування.

Introduction

Relevance Theory (hereinafter referred to as RT), as a key approach in contemporary cognitive-pragmatic research, consistently faces the challenge of processing creative or “category crossing” metaphors (Wilson & Carston, 2008, p. 14), which do not fit into the interpretative framework of so-called loose uses, where metaphors are analyzed similarly to cases of non-metaphorical usage (Sperber & Wilson, 1995, p. 233-237). Despite the introduction of several productive ideas, such as ad hoc concepts, emergent properties, dual processing, and metarepresentations into RT's analytical toolkit, the problem of inferring the meaning of creative and extended metaphors is still far from being resolved. Specifically, RT does not provide clear answers to questions like how implicatures derived from ad hoc concepts of the source domain adapt to the target, how emergent properties are derived, and which positive cognitive effects justify the processing efforts involved in the interpretation of creative metaphors. Conceptual Integration Theory (henceforth CIT), which offers the most effective tools for analyzing novel, unconventional metaphors, can enrich the relevance-theoretic approach by filling in some of its gaps. In turn, the RT method can complement the method of conceptual blending by providing a clear algorithm for deriving metaphorical mappings in blends, considering contextual assumptions and the principle of relevance (the optimal balance between processing effort and positive cognitive effects), which explains the selection of specific structures from mental inputs for projection into the blend.

Thus, the relevance of the article is determined by its specific contribution to the development of cognitive linguistics and cognitive pragmatics theories and methods. The novelty of the research lies in its attempt to propose a hybrid method for analyzing creative metaphors by integrating the relevance-theoretic approach with the analytical tools of Conceptual Blending Theory.

This article is organized as follows: First, we present the theoretical framework integrating Relevance Theory and Conceptual Blending Theory. Then, we describe our hybrid methodology for analyzing creative metaphors. Following this, we present our analysis of advertising metaphors using this integrated approach. Finally, we discuss the implications of our findings for both theoretical understanding and practical applications in advertising.

Theoretical Framework

The article draws on the idea that the differences in approaches to understanding and analyzing metaphor in cognitive linguistics and Relevance Theory do not imply that these approaches are mutually exclusive, as both involve the cognitive processing of metaphor with conceptual adjustment of verbally encoded information. Specifically, previous research has suggested the impact of contextual assumptions on mappings (Tendahl & Gibbs, 2008) and noted that metarepresentations, as non-propositional level structures considered in RT as tools for “inspection of implications, associations” (Carston, 2010, p. 13), may include categorization-based conceptual metaphors (Stöver, 2010). Noting the complementarity of the relevance-theoretic and cognitive linguistic approaches to metaphor study (Wu, 2020), the researchers have also pointed out that the tools of cognitive linguistics can be valuable in explaining the inference of emergent properties (Wałaszewska, 2014) – a concept introduced in RT for analyzing creative “category crossing” metaphors. Also fruitful for hybrid analysis of metaphor is the idea that cross-space mappings in the conceptual processing of a metaphor can modify the cognitive environment (Romero & Soria, p. 14)



and that such mappings are constructed based on the principle of relevance – seeking matchings that allow the interpreter to achieve maximum positive cognitive effects with minimal processing effort.

At the same time, the ideas of an integrative approach to metaphor analysis remain rather hypothetical regarding the possibility of integrating different approaches. A hybrid approach that combines methods from cognitive linguistics and Relevance Theory has been proposed in two monographic studies (Stöver, 2010; Tendahl, 2009). However, both of them integrate Relevance Theory with Lakoff's Conceptual Metaphor Theory (Lakoff & Johnson, 1980) leaving Conceptual Integration Theory – arguably the most optimal approach for studying creative metaphors – out of the analysis. The attempt to integrate the approaches of RT and CIT has been undertaken in individual studies. Notably, this aspect has been explored in the analysis of the classical Butcher-Surgeon metaphor (Wałaszewska, 2014), as well as in visual metaphors (Kravchenko & Yudenko, 2021; 2023; Kravchenko & Zhykharieva, 2023). However, such studies are clearly insufficient to introduce a hybrid method of metaphor analysis that considers the complementary tools of the relevance-theoretic approach and conceptual blending. To our knowledge, unconventional verbal metaphors in commercial advertising have not been analyzed from this perspective.

This article attempts to fill this gap.

According to *Conceptual Integration Theory*, the processing of a metaphor is presented as online dynamic cognitive work (Fauconnier & Turner, 2002, p. 368), which involves an integration network that includes: (a) two or more input mental spaces, which provide structures for blending; (b) a generic space containing common properties of the input spaces, allowing for matching between them. The common properties in the generic space are represented by stable, abstract conceptual structures (Fauconnier & Turner, 1996), traditional (in the sense of Lakoff's metaphors) metaphorical and metonymic mappings that function as a kind of “template” to help link elements (Coulson & Oakley, 2003) and maintain relational connections across the entire network; and (c) the blended space, into which elements and relationships from the input spaces are projected, generating the metaphor's meaning. Emergent properties in the blend are determined by the mapping schemes of the input spaces, yet they contain new structures that did not exist in them.

The interaction of elements from the input mental spaces is based on vital relations such as Change, Identity, Time, Space, Cause-Effect, Part-Whole, Representation, Role, Analogy, Disanalogy, Property, Similarity, Category, Intentionality, and Uniqueness (Fauconnier & Turner, 2002, p. 101). These relations not only underpin the structural connections between the original concepts, enabling their combination, but also create new levels of meaning and associations within the blend. In the context of this study, an attempt will be made to justify the structures of the generic space within the integration network, as well as vital relations as cognitive tools that activate mental processes during the search for relevant interpretations and the execution of mappings.

The conceptual processes underlying the mappings between the input spaces include selective projection from the inputs with subsequent matching during the Composition stage of the blend, as well as Completion and Elaboration (Fauconnier & Turner, 2002, p. 47-48). In the Completion phase of the blend, gaps in the new structure formed during the Composition stage are filled with missing elements and structures based on the recipients' previous experience or knowledge. In terms of Relevance Theory, such structures from the cognitive base of the interpreters correspond to new contextual assumptions, which in metaphorical commercial advertising are related to the brand's identity and its constituting concepts, including secondary signifieds underlying its mythology.

The elaboration and development of the conceptual structure occur during the Elaboration stage of the blend through its expansion – application to new contexts or situations; projection—using elements of the blended space in other conceptual domains; scenario building, and so on. In creative metaphors of commercial advertising, the completion and elaboration of the blend are associated, as we will demonstrate in the subsequent analysis, with positive cognitive effects (in accordance with the principle of optimal relevance) – enhancement of branding associations, including brand values, the implicit promise to satisfy the motivational needs of the target audience through the advertised product, and the activation of positive emotions.

Regarding *Relevance Theory*, the theoretical foundation of the article includes the research categories and tools used in RT for metaphor analysis. Specifically, for analyzing the procedural aspects of deriving representations and relational structures between domains, RT employs the ad hoc concept (Bowdle &

Gentner, 2005; Carston, 2002; Romero & Soria, 2014; Wilson & Carston, 2008) – a special concept derived from the source domain concept, and constructed by selecting a core or non-core ad hoc property from its encyclopedic entry (Sperber & Wilson, 1995, p. 86) (Rubio-Fernández, 2008, p. 381-382). Implicatures from the ad hoc concepts allow for the metaphorical adaptation of the source to the target.

The second category used in Relevance Theory for interpreting metaphorical expressions is the emergent property of the metaphor. This category is employed to explain the inference process in “category crossing” metaphors, where a literal interpretation of the predicate is incompatible with a literal interpretation of the subject (Wilson & Carston, 2008, p. 14). Emergent properties cannot always be derived using standard rules of semantic composition (op. cit., p. 1) and through the derivation of an ad hoc concept. In such cases, the cognitive processing of “category crossing” metaphors become more complex, involving the mutual adjustment of explicit content (explicature), context, and contextual implications – from the encoded concept to the communicated concept and from the communicated concept to implicatures (op. cit., p. 19).

One of the key tenets of Relevance Theory is the distinction and interrelation between the notions of explicature and implicature – two key components involved in the interpretation of an utterance (Sperber & Wilson, 1986, p. 182; Kravchenko, 2017; Kravchenko et al., 2021, 2024), with their mutual adjustment according to expectations of relevance. The process of interpreting any message, including a metaphorical one, begins with forming a hypothesis about the explicature, as its constructing is the most readily accessible to processing and requires minimal procedural effort. The explicature, or “explicitly communicated content”, constitutes a proposition recovered by a combination of decoding and inference, which provides a premise for the derivation of contextual implications and other cognitive effects (Sperber & Wilson, 1986, p. 176-193). The propositional form of the message is filled not only with meanings derived from dictionary definitions and syntax, but is also inferred by the recipient with consideration of the context. The presumption of optimal relevance assumes that the addressee initially completes the propositional (logical) form by: (a) resolving ambiguities: choosing one of the possible meanings of polysemous words or phrases; (b) reference assignment: identifying the specific entities or concepts referred to; (c) enrichment: adding additional elements such as time, place, intention, which may not be explicitly stated but are implied; (d) filling in gaps: adding information necessary for the completeness of meaning, which may be omitted from the statement itself.

The meaning derived at the level of explicature is complemented and expanded at the implicit level through the construction of hypotheses about implicated premises – “the intended contextual assumptions”. The next step in the overall comprehension process is the construction of implicated conclusions – an appropriate hypothesis about the intended contextual implications (Wilson & Sperber, 2005, p. 621). In Relevance Theory, implicatures can be strong or weak. Strong implicatures are more obvious and necessary for understanding the meaning of the utterance. Weak implicatures can vary depending on the listener's perception and are optional. Their recovery is relevant, but is not itself essential because the utterance suggests a range of similar possible implicatures. Implicatures and ad hoc concepts are closely related in the interpretation process. An inferred ad hoc concept generates a weak or strong implicature, or multiple implicatures, that allow for metaphorical adaptation of the source to the target.

The aim of the article is to propose a model for analyzing creative metaphors in commercial advertising slogans from the perspective of various approaches to the cognitive processing of verbal metaphors. This aim is further specified in the *research objectives*: (1) to identify research tools from Relevance Theory and Conceptual Integration Theory for metaphor analysis; (2) to analyze a metaphorical slogan from the perspective of Relevance Theory; (3) to conduct cognitive processing of the metaphor using Conceptual Blending Theory; (4) to propose and test a hybrid method for analyzing creative metaphors

Methodology

The article employs metaphor analysis methods based on the approaches of (a) Relevance Theory, using tools such as ad hoc concept, ad hoc properties, and emergent properties, and (b) Conceptual Integration Theory, incorporating the method of mapping in the conceptual network at various stages of blend construction, based on vital relations, and abstract conceptual structures of the generic space. Given that the slogan belongs to commercial advertising, an additional method used in the article is semiotic analysis based on R. Barthes' (1972) secondary semiology and advertising mythology. The analysis aims to reveal the secondary signified of the brand discourse – the connotatum – which is metonymically identified with the brand and embodies the key motivational value of its target consumer identity (Kravchenko et al., 2021).

The inclusion of Barthes' secondary signified analysis is motivated by the function of such a connotatum as a component of the cognitive context of advertising recipients, tied to the testing of interpretative hypotheses and the positive cognitive effects derived from metaphor interpretation.

The analysis algorithm corresponding to the research stages includes four steps:

- 1) Cognitive processing of the metaphorical slogan from the perspective of Relevance Theory.

At this stage, the slogan is analyzed in terms of how it evokes associations and captures the recipients' attention through cognitive context, focusing on the deriving of ad hoc concepts and emergent properties.

- 2) Justification of the analysis results based on the principle of optimal relevance, according to which the effort expended on cognitive processing of the metaphor is balanced by the positive cognitive effects of its interpretation.
- 3) Cognitive processing of the metaphorical slogan from the perspective of Conceptual Integration Theory. At this stage, the focus is on identifying and analyzing the mappings between domains that form the conceptual networks, as well as examining the vital relations and structures present in the blend.
- 4) Processing the metaphor using a hybrid analysis method, which combines the tools of the Relevance Theory approach (ad hoc concepts, emergent properties) with Conceptual Blending methods (mapping, conceptual network construction). This method allows for viewing the metaphor in terms of complementary cognitive processes.

The slogan of the Harley-Davidson motorcycle brand, "Go beyond 3D with HD" (<https://www.ebay.com/itm/225817141093>), was chosen for analysis from the perspective of cognitive linguistics and cognitive pragmatics. The creativity and unconventionality of this slogan make it suitable for analysis from the perspective of various approaches to cognitive processing of metaphors, as well as for hybrid analysis, combining the research tools of cognitive linguistics and cognitive pragmatics.

Results and discussion

Cognitive processing of the H-D metaphor based on the Relevance Theory approach

The first stage of cognitive processing for the metaphorical slogan "Go beyond 3-D with H-D" involves decoding the explicature – filling in the propositional (logical) form, resolving ambiguity by hypothesizing about the explicit content. Decoding the explicature is achieved through reference assignment: interpreting "3-D sensations" as ordinary sensations in the earthly world with three-dimensional spatial dimensions, and through enrichment – unveiling the meaning of the phrase "beyond 3-D" as extreme (otherworldly, non-three-dimensional) sensations from riding a Harley-Davidson. By decoding the explicature, the source and target domains are established and connected in the proposition Harley-Davidson is a Four-dimensional world.

However, the explicature does not provide a basis for relating the source to the target, and is insufficient for inferring the metaphor's full meaning. Therefore, cognitive processing continues with constructing the ad hoc concept 4D* (non-three-dimensional world). It is derived by selecting from its encyclopedic entry a non-core ad hoc property "beyond ordinary sensations". The ad hoc concept is adapted to the goal by generating a series of implicatures: Harley-Davidson – otherworldly (beyond-earth) emotions, Harley-Davidson – freedom from gravity, Harley-Davidson – four-dimensional/superluminal speed. The metaphor's meaning is inferred as a mutual alignment of the explicature, contextual implications about the brand, and the implicature based on the constructed ad hoc concept, generating the emergent property of the metaphor: Riding Harley-Davidson motorcycles will free you from the confines of the familiar (3D) world, giving new non-three-dimensional sensations of time and space. At this stage, the metaphor processing concludes, as the inferred meaning aligns with the principle of optimal relevance, where the cognitive effort invested in processing the metaphor "pays off" with positive cognitive effects from the interpretation. These effects include (a) cognitive ease and emotional satisfaction from grasping the metaphor, (b) the development of new associations and ideas related to the sensation of fast riding as a break from the familiar three-dimensional world, and (c) the discovery, on the one hand, of the new (non-three-dimensional sensations) in salient (high-speed driving) and, on the other hand, of salient – an easily

recognizable secondary signified “freedom” constructing the brand identity – in novel (associating the sensation of freedom with transcending the three-dimensional world).

Cognitive processing of the metaphor based on Conceptual Blending Theory

The integration processes during metaphor processing combine Input Space 1 (Harley-Davidson), Input Space 2 (sensations beyond the three-dimensional world), the generic space of shared elements from the input spaces in the form of abstract structures and relations common to both inputs, and the blended space, where mappings of corresponding elements from the inputs are projected. The Generic Space includes elements such as Space, Time, Speed, Sensations, general-level conceptual metaphors like STOPPING BEING IN A STATE IS LEAVING A LOCATION and FREEDOM IS FLIGHT, and image schemas such as Force and Transformation, Container (ordinary earthly world), In/Out, Limitation, Motion, and Intensity. In terms of the type of conceptual integration, the metaphor represents a Single-Scope Network (Fauconnier & Turner, 2002, p. 126-131), as Input Space 2 is dominant, providing the structure for integration and facilitating cross-space mappings in the blend. From Input 2, elements and relations like otherworldly (beyond-earth) emotions, four-dimensional/superluminal speed, and freedom from gravity are projected into the blend. Input 1 (Harley-Davidson) provides the structure to be filled with the elements of input 1.

As a result, new mapping structures, absent in the separate inputs, emerge in the blend during the Composition stage: Harley-Davidson’s speed – transcending the three-dimensional dimension; extreme emotions from riding a Harley-Davidson – sensations in a multidimensional world. The integration of inputs is based on vital relations of Change, Time, Space, and Similarity (of sensations). The last vital relation attracts metonymic tightening as one of the key principles of optimality in conceptual network. According to this principle, metonymically related elements, which are inherently diffuse, are projected into the blend space to compress the “distance” between them, while what is inherently condensed is, on the contrary, decompressed in the blend (Fauconnier & Turner, 2002, p. 119). Thus, emotions from high-speed riding on Harley-Davidson motorcycles are metonymically compressed to stand for Harley-Davidson itself, while the intensity of emotions stands for the multidimensional world (beyond 3-D). During the Completion stage of conceptual integration, a causal connection is projected into the blend between speed and freedom, with freedom serving as the secondary signified that constructs the discourse and mythology of Harley-Davidson: high-speed riding on a Harley-Davidson provides freedom from the physical limitations of the ordinary world.

In the Elaboration stage, the blend functions as a commissive promise to fulfill the target audience’s motivational needs for sensations impossible in the three-dimensional world, and as an implicit directive urging the audience to transcend the ordinary space-time world by joining the Harley-Davidson world – through purchasing the advertised product.

Processing the metaphor based on the combined methods of Relevance Theory and Conceptual Blending Theory

The tools of the Relevance Theory approach complement the analysis based on conceptual blending by explaining (a) how contextual assumptions influence the selection of elements and relations from mental spaces that are projected into the blend, and (b) why certain mappings in the blend are more preferable, guided by the principle of relevance – achieving an optimal balance between the cognitive effort invested and the positive cognitive effects gained.

In the analyzed metaphorical slogan, the stage preceding the composition of the blend is the establishment of the input mental spaces. Applying the Relevance Theory approach, the inputs are established through decoding the explicature – a detailed elaboration and expansion of the propositional form of the slogan, based on disambiguations, reference assignment, and enrichments, allowing the identification of comparable domains (in terms of Conceptual Blending Theory—mental spaces for subsequent integration). The explicated inputs – Harley-Davidson and the four-dimensional world – have shared structural elements and relations that enable their integration in the blend.

In terms of conceptual integration, the generic space in the integration network is constituted by basic structures including conceptual metaphors like FREEDOM IS FLIGHT, STOPPING BEING IN A STATE IS LEAVING A LOCATION, and image schemas (Lakoff, 1987, 459-461), along with concepts of motion and spatial relations. These abstract basic-level structures (Turner 1991, p. 177), universal cognitive

primitives, are pre-conceptual structures accessible in the cognitive base of any recipient as the “embodied” anchors of the entire conceptual system (Hampe, 2005, p. 1-3). As a foundation for more complex conceptual structures, they help interpret input spaces, forming a cognitive context for their understanding and comparison. Accordingly, from the perspective of Relevance Theory, abstract structures in the generic space can be viewed as part of the recipients’ cognitive context, helping to simplify and speed up the interpretation of information, minimizing cognitive effort.

Another component of the audience’s cognitive context is the key conceptual connections between elements of the mental spaces, which, in Conceptual Blending Theory, are referred to as vital relations (Fauconnier & Turner, 2002, p. 101). These vital relationships ensure that structural connections and relationships between elements are preserved when they are projected from input spaces into the blend, simplifying access to relevant interpretations. Similar to image schemas and conceptual metaphors, vital relations, rooted in experience, are automatically activated by the recipient of metaphorical advertising, facilitating the process of finding relevant interpretations, consistent with the principle of minimizing cognitive effort in Relevance Theory.

In the metaphor under analysis, the recipient interprets how one situation or concept is mapped onto another through relations such as cause-effect, change, similarity, and space. The cause-effect vital relation establishes causal connections between high-speed riding on a Harley-Davidson and the concept of freedom, activating cognitive processes aimed at generating implicatures about Harley-Davidson riding as a form of liberation from the constraints of the everyday world. The similarity relation underpins the connection between the ordinary world and riding regular motorcycles *versus* the 4D world and riding a Harley-Davidson. The change relation establishes links between the sensations and emotions from ordinary riding and the extraordinary (beyond 3D) emotions provided by Harley-Davidson motorcycles. The space relation activates cognitive processes underlying cross-domain mappings such as “the three-dimensional space of the everyday” and “the 4D space of extraordinary possibilities with Harley-Davidson.”

Thus, from the perspective of Relevance Theory, vital relations from Conceptual Blending Theory, which help establish connections between domains, and activate mental processes that facilitate interpretation, can be seen as cognitive tools that reduce the processing costs in metaphor comprehension and ease the process of identifying relevant mappings.

The relevance-theoretic approach justifies the selection of elements and relations from mental spaces that are projected into the blend. In the analyzed metaphor, the mappings during the Composition phase of the blend are preceded by the construction of an ad hoc concept from the dominant input space, 4D* (non-three-dimensional world), based on the ad hoc property of “extraordinary sensations.” The implicatures from this ad hoc concept are projected onto the structure of the non-dominant space, H-D. The resulting mappings structure the blend, generating the meaning of the metaphor.

At the Completion stage, the blend is completed by incorporating new contextual assumptions in relevance-theoretic terms. These assumptions are linked to the discourse-forming secondary signified of “freedom” associated with the Harley-Davidson brand (Kravchenko et al., 2024). This generates a new integration: HD as freedom from the limitations of the three-dimensional world. At the Elaboration stage, the blend runs as a promise to fulfill the target customer’s desire for extraordinary sensations and as a call to attain freedom from the constraints of everyday life through the purchase of the advertised product.

The elaboration of the blend aligns with the principle of optimal relevance – where cognitive efforts spent on processing the metaphor are rewarded with maximal positive cognitive effects. Among these effects are: (a) Strengthened branding associations, with the promise of unique sensations linked to riding a Harley-Davidson motorcycle, exceeding traditional experience; (b) Enrichment of existing knowledge about H-D as a symbol of something greater than mere transportation – “infinite possibilities,” “multidimensional experiences”; (c) Reinforcement of values such as freedom and self-expression, along with the associated positive emotions tied to the opportunity to experience something exceptional and innovative; (d) Emotional impact and motivation to explore new horizons.

In this way, the blend operates not only as a cognitive process but also as a powerful persuasive mechanism that resonates with the audience’s emotions and aspirations.

Conclusions

The article makes a valuable contribution to the problem of interpreting unconventional metaphors by employing research tools from Relevance Theory and Conceptual Blending Theory, and attempting their integration within a hybrid method of metaphor analysis. The main findings of the paper concern the algorithm for deriving metaphorical mappings in blends, taking into account contextual assumptions and the principle of relevance, which explain the selection of specific structures from mental inputs for projection into the blend. The stage of decoding the explicature, aimed at identifying input mental spaces for subsequent integration in the blend, follows the relevance-theoretic approach – eliminating ambiguities, assigning references, and enriching the content – allowing for the establishment of comparable domains and their propositional connection. During the Composition stage, an ad hoc concept of the source is inferred. Implicatures from the ad hoc concept allow the source to be adapted to the target, creating matchings with elements from the structure of the target space and structuring blend mappings, thereby generating the primary meaning of the metaphor. Abstract basic-level structures, constituting the generic space of the integration network and accessible in the cognitive base of the target audience of metaphorical advertising, form the cognitive context for understanding and comparing input spaces, minimizing the cognitive effort of interpreters. Another component of the cognitive context is vital relations – key conceptual connections between elements of mental spaces, which, due to their grounding in human experience, are automatically activated by the recipient of metaphorical advertising, facilitating the process of searching for relevant interpretations in accordance with the principle of minimizing cognitive effort. At the Completion stage, the integration is filled by including new contextual assumptions related to the brand's secondary signified, generating new structures in the blend. During the Elaboration stage, the blend is evolved based on the inclusion of contextual assumptions about the brand's messages, related to fulfilling the motivational needs of the target audience and encouraging them to satisfy those needs through purchasing the advertised product.

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Innovative approaches to juvenile justice reform: a Finnish-Ukrainian experience

ІННОВАЦІЙНІ ПІДХОДИ ДО РЕФОРМУВАННЯ ЮВЕНАЛЬНОЇ ЮСТИЦІЇ: ФІНСЬКО-УКРАЇНСЬКИЙ ДОСВІД

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Abstract

Juvenile justice has been a significant and ongoing concern in many countries for an extended period. Finland stands out as a leading example in developing a multidisciplinary juvenile justice system. In contrast, Ukraine is in the process of establishing its own effective juvenile justice framework. The purpose of this article is to analyze the current state of juvenile justice and problems aspects in both Finland and Ukraine. The research focuses on social relations within the field of juvenile justice, examining the challenges faced by both countries, the state of their respective systems, and identifying best practices from Finland that could inform the development of Ukraine's juvenile justice system. To achieve this, the authors employed various scientific methodologies, including analytical, phenomenological, generalization, comparative-legal, and sociological methods, including surveys. Special attention is given to several problematic aspects within the juvenile justice systems of both countries and potential solutions to these issues. The authors conclude that Finland's juvenile justice system embodies a welfare-oriented approach, which Ukraine aims to emulate in its own development. While Finland's system does face certain challenges, it largely adheres to international standards and demonstrates overall success.

Анотація

Правосуддя щодо неповнолітніх протягом тривалого періоду викликає серйозне занепокоєння в багатьох країнах. Фінляндія є провідним прикладом у розробці мультидисциплінарної системи ювенальної юстиції. Натомість Україна перебуває у процесі створення власної ефективної системи ювенальної юстиції. Метою цієї статті є аналіз поточного стану ювенальної юстиції та її проблемних аспектів як у Фінляндії, так і в Україні. Дослідження зосереджено на соціальних відносинах у сфері ювенальної юстиції, вивченні викликів, з якими зіштовхуються обидві країни, стану їх ювенальної системи, а також визначенні найкращих практик Фінляндії, які могли б сприяти розвитку української системи ювенальної юстиції. Для цього автори використовували різноманітні наукові методології, зокрема аналітичні, феноменологічні, узагальнюючі, порівняльно-правові, соціологічні методи, зокрема опитування. Особливу увагу приділено декільком проблемним аспектам у системах ювенальної юстиції обох країн та можливим шляхам вирішення цих питань. Автори дійшли висновку, що система ювенальної юстиції Фінляндії втілює підхід, орієнтований на добробут, який Україна прагне наслідувати у своєму власному розвитку. Хоча у системі Фінляндії є певні труднощі, вона значною мірою

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This article underscores the value of Finland's experience as a beneficial resource for enhancing Ukraine's juvenile justice framework.

Keywords: juvenile justice, restorative justice, mediation, child rights, legal reform.

відповідає міжнародним стандартам і демонструє загальний успіх.

Ця стаття підкреслює цінність досвіду Фінляндії як корисного ресурсу для вдосконалення системи ювенальної юстиції в Україні.

Ключові слова: ювенальна юстиція, відновне правосуддя, медіація, права дитини, правова реформа.

Introduction

In modern democratic countries, much attention is paid to juvenile justice. The participation of minors in criminal justice in most countries corresponds to global trends. It is namely the creation of child-friendly justice, compliance with the best interests of the child, the use of restorative justice instead of a punitive approach, working with minors using the "green room method". The term "juvenile justice" is ambiguous and in a general sense means norms and standards, procedures and mechanisms that regulate the participation of minors (offenders and victims) in the criminal process. It is important for Ukraine to study the experience of countries that have succeeded in creating modern juvenile justice, including crime prevention and reintegration of minors. The analysis of the juvenile justice systems of the two countries made it possible to single out some problematic aspects and identify ways to overcome them.

Finland and Ukraine exhibit stark differences in their historical development. Finland, with its Scandinavian heritage, has long been recognized for its progressive approach to criminal justice, including juvenile justice. In contrast, Ukraine, a post-Soviet nation, has undergone significant legal and social transformations in recent decades.

Statistical data show that juvenile justice issues are relevant for Finland and Ukraine. For instance, "the figures show that ordinary robbery and damage offences are the core of youth crime. Assault offences and several traffic offences are also key forms of crime in youth crime. In recent years, the proportion of young people registered as suspects in many youth-focused crime categories has even increased compared to a few years ago. For example, in the case of robbery, where the proportion of young people has been around 51 percent, there were already a relatively high percentage of people under the age of 21 in the period between 2014 and 2016. In addition to robberies, there has been an increase of more than ten percentage points in defamation and illegal threats". (Poliisi, 2024). The issue of minors in contact with the juvenile justice system remains relevant in Ukraine. In 2023, the Prosecutor General's Office recorded 345 cases of criminal offenses committed by minors, as well as 7,289 cases of recognition of minors as victims of crimes (Office of the Prosecutor, 2023). These statistics highlight the urgent need for comprehensive and high-quality interventions in the field of juvenile justice. The priority of such efforts should be to prevent juvenile delinquency, mitigate psychological trauma, and protect the best interests of children in accordance with international standards.

Both countries face distinct challenges within their juvenile justice systems. Finland, despite its progressive approach, confronts issues related to the increasing complexity of juvenile crime and the effectiveness of rehabilitation programs. Ukraine, on the other hand, struggles with corruption and a lack of resources for prevention and rehabilitation services.

Both countries face distinct challenges within their juvenile justice systems. Finland, despite its progressive approach, confronts issues related to the increasing complexity of juvenile crime and the effectiveness of rehabilitation programs. Ukraine, on the other hand, struggles with corruption and a lack of resources for prevention and rehabilitation services.

The theoretical foundation section highlights many well-known researchers of juvenile justice who have shaped the main directions of development of this field. The article uses various methods that helped to conduct a qualitative study, namely philosophical methods, phenomenological method, generalization method, interview method, comparative law method. The section "Results and Discussion provides a detailed analysis of the state of development of juvenile justice in Finland and Ukraine, draws conclusions on positive and problematic aspects, and presents the results of a survey at the University of Helsinki, which made it possible to highlight certain problematic aspects of juvenile justice in Finland, namely: lengthy trial

processes, Isolation of children during pre-trial detention, Co-mingling of minors and adults in detention facilities, Inadequate educational opportunities in detention centers. In Ukraine, the main problems are more global implementation of restorative justice, low quality of child crime prevention, training of juvenile specialists, and the formation of a multidisciplinary approach.

Finland is a successful example for Ukraine of building a common justice system for children. Ukrainian society needs to establish the use of mediation among minors, pay attention to the prevention of child crime, gender sensitivity towards minors, and continue the path of restorative justice in juvenile justice.

In the theoretical framework section, a lot of well-known researchers of juvenile justice who formed the main development trends in this field are singled out. Various methods were used in the article, which helped to conduct the research qualitatively, namely philosophical methods, phenomenological method, the generalization method, interview method, comparative legal method. In the results and discussion section, a detailed analysis of the state of development of juvenile justice in Finland and Ukraine was carried out, conclusions were drawn about positive and problematic aspects, and the results of a survey at the University of Helsinki was provided. Conclusions were made that for Ukraine, Finland is a successful example of building justice common to the child, in particular, Ukrainian society needs to establish the use of mediation among minors, pay attention to the prevention of child crime, gender sensitivity to minors, and continue the way of restorative justice in juvenile justice.

By understanding the similarities and differences between these two systems, policymakers, practitioners, and researchers can gain valuable insights to improve juvenile justice outcomes and ensure a more just and equitable future for young offenders.

Theoretical framework

In recent years, the field of juvenile justice has garnered substantial attention from scholars worldwide, resulting in a plethora of proposals aimed at its enhancement and development. Notably, studies focusing on the juvenile justice systems of Bangladesh and Malaysia have shed light on critical areas for reform. Researchers (Abdullah & Ferdousi, 2024) highlight that both countries demonstrate significant potential to address the root causes of juvenile crime more effectively. They argue that Bangladesh requires the establishment of a dedicated juvenile justice system, tailored to meet the specific needs of its youth. Such a system would not only provide appropriate rehabilitation but also facilitate a more humane approach to youth offending. In contrast, Malaysia has made commendable strides by revising its legislative framework to include modern concepts of child rights and justice. The ongoing reforms in Malaysia signal a progressive shift towards recognizing the complexities of juvenile offending and the necessity for a more integrated legal approach.

The enhancement of juvenile justice systems is fundamentally a collaborative endeavor. Policymakers, legislators, academics, and civil society must work in concert, employing a multidisciplinary approach to foster an effective juvenile justice framework. This collaborative synergy is crucial for implementing sustainable reforms that are adaptable to the specific socio-cultural contexts of each country. Therefore, the call for joint efforts is not merely a suggestion but an imperative for jurisdictions worldwide seeking to improve their juvenile justice mechanisms.

Recent discourses surrounding juvenile justice policies and practices indicate a significant state of flux, heavily influenced by ongoing research into adolescent development and the impact of social determinants of health on youth offending and rehabilitation (April et al., 2023). While these advancements have contributed to improved outcomes for many young individuals, a troubling inconsistency remains; a considerable number continue to be disproportionately affected by the justice system. This disparity suggests that current theoretical frameworks in juvenile justice may overlook critical areas requiring intervention. Current studies indicate a growing consensus among researchers advocating for a restorative approach to juvenile justice.

As articulated by Subarsyah and Achmad (Subarsyah & Achmad, 2023), the seriousness of bringing a child before a court mandate that the child's best interests be a primary consideration. They assert that sentencing should be regarded only as an absolute last resort, where discussions surrounding children's rights ought to precede punitive measures. In this restorative justice paradigm, alternative settlement options are privileges

afforded to both offenders and victims involved in the dispute resolution process, underscoring the need for a more collaborative approach.

In the context of Ukraine, scientists (Reznik et al., 2022) emphasize the integral role of mediation as a mechanism for safeguarding citizens' rights, pointing to its potential for fostering innovative and sustainable solutions. Although the concept of mediation is gaining traction, its full realization requires not only political will but also robust support from civil society. Such support encompasses a collective readiness to resolve conflicts outside traditional court frameworks, thereby facilitating the emergence of a supportive mediation environment. Both Ukraine and Finland have ratified multiple international conventions that underlie the protection of children's rights.

Volkova et al. (Volkova et al., 2023) illuminate that the European Court of Human Rights (ECtHR), through the application of these conventions, has devised a coherent system of principles and standards that regulate the legal status of children in international law. These established principles must inform case considerations, particularly at the national level.

Moreover, a significant body of comparative research has identified diverse approaches to improving juvenile justice systems globally. A comprehensive review of contemporary literature offers critical insights into the multifaceted nature of juvenile justice, shedding light on effective strategies for addressing prevalent challenges. Despite the abundance of scholarly works, a notable gap remains in the in-depth analysis of international juvenile justice practices and their potential application to the development of Ukraine's juvenile justice system. This article aims to bridge this gap by examining pressing issues within the field and proposing evidence-based solutions to enhance its effectiveness.

Juvenile justice systems worldwide face the complex challenge of balancing the rights of young offenders with the need for public safety and rehabilitation. This research delves into the juvenile justice systems of Finland and Ukraine, two countries with contrasting legal traditions and societal contexts. By examining their approaches to juvenile delinquency, detention, and rehabilitation, this research aims to identify key strengths, weaknesses, and potential areas for reform.

This research will contribute to the field of juvenile justice by: identifying best practices: Examining Finland's successful strategies for developing juvenile justice, highlighting areas for reform: Pinpointing the weaknesses in Ukraine's juvenile justice system and proposing potential solutions, understanding the impact of societal factors: Analyzing how different factors influence juvenile justice outcomes. By understanding the similarities and differences between these two systems, policymakers and practitioners can gain valuable insights to improve juvenile justice.

Methodology

The methodological basis of the study was a set of scientific methods of cognition.

General methodological principles

This study applied a multifaceted methodological approach to analyse the juvenile justice systems of Finland and Ukraine. This approach combined philosophical, empirical and comparative law methods to provide a comprehensive analysis of the two systems.

Specific methods:

Analytical Method: This was used to analyse legal and social issues related to juvenile justice, such as the challenges faced by both countries in balancing the rights of juvenile offenders and the need for public safety.

Phenomenological Method: Through exploring the experiences of young offenders, victims and justice professionals, this method helped to reveal the underlying meanings and structures of juvenile justice practice.

Generalisation Method: This involved analysing a wide range of data, including legal texts, policy documents and empirical studies, to identify patterns and trends in juvenile justice practice.

Comparative Law Method: By comparing the legal systems of Finland and Ukraine, this method allowed for the identification of similarities, differences and potential areas for reform.

Interview Method: 38 participants from the University of Helsinki were interviewed to gain insight into their perceptions of the Finnish juvenile justice system. The questionnaire was sent via email and was conducted voluntarily and anonymously in English.

Document collection and analysis

Document analysis involved a systematic review of relevant legal texts, academic articles and policy documents. The following steps were followed:

Selection of documents based on their relevance to the research questions and their availability.

Database search: Key databases such as Google Scholar, JSTOR and HeinOnline were used to identify relevant sources. The article contains references to sources indexed in Web of Science and Scopus.

Keyword search: A combination of keywords was used to refine the search.

Document analysis: Selected documents were analysed using a thematic coding approach. Key themes such as legal framework, police procedures, court cases and rehabilitation programmes.

Triangulation: Multiple data sources including legal texts, empirical studies and interviews were used to triangulate the results.

Ethical considerations: Ethical principles were followed to protect the rights and confidentiality of research participants.

The combination of these different methods provided a comprehensive understanding of the juvenile justice systems in Finland and Ukraine, offering valuable insights for policy and practice.

Results and Discussion

Finland is a welfare country with a rather soft approach to juvenile justice, ensures high economic well-being of citizens, which reduces the level of crime, and pays significant attention to the prevention of crime among minors. For instance, (Kangas et al., 2019) "Finland provided from 2017 to 2018 to 2000 unemployed people an amount of €560 per month for 2 years. The monthly stipend continued even if they found work. According to preliminary reviews, recipients indicated that their basic income reduced stress and fear related to financial struggles, increased the feeling of wellbeing and health. The basic income also provided a psychological feeling of security as well an incentive to find a good job or start a business. Some showed more engagement in their communities".

In contrast, Ukraine faces economic challenges exacerbated by ongoing war, potentially leading to increased juvenile delinquency. While Ukraine has begun to implement restorative justice practices and child-friendly approaches, crime prevention efforts remain comparatively underdeveloped.

As previously noted, Finland prioritizes preventive strategies to mitigate juvenile delinquency. Educational institutions play a crucial role by incorporating curricula on juvenile delinquency, conflict theory, and resolution strategies. Schools serve not only as environments for academic learning but also as venues for cultivating social skills and human rights awareness. This restorative approach fosters individual dignity and community solidarity, promoting mutual respect and understanding among students, regardless of their differing perspectives.

Schools create both explicit and implicit frameworks governing interactions, emphasizing the importance of relationship maintenance, conflict resolution, and respect for human rights. A shift from a punitive culture to one rooted in respect and restoration is essential for supporting the growth and development of children and adolescents, irrespective of their circumstances (Wolthuis & Chapman, 2022).

Research indicates that targeted programs for preventing juvenile crime are effective. Veselov et al. (Veselov et al., 2024) found that such programs significantly reduce deviant behavior and bullying among adolescents. These findings are particularly valuable for school psychologists and educational assistants, as they suggest a decrease in negative behavioral trends. Furthermore, from a legal standpoint, lower rates of deviant behavior correlate with a reduction in potential criminal activity.

Chang and Hyun-Seok (Chang & Hyun-Seok, 2008) assert that prevention and rehabilitation form the cornerstone of juvenile justice in Finland, emphasizing that these policies are paramount compared to adult criminal justice systems. Even in cases involving juveniles who receive criminal penalties, rehabilitation remains a critical focus. Although juvenile penalties align with general criminal law, they are typically less severe, highlighting the importance of rehabilitating youth within society. This comprehensive understanding of juvenile justice inherently encompasses the prevention of delinquency. In Ukraine, it is necessary to pay more attention to the prevention of child crime, because this is work on the prospect of reducing the number of crimes among minors.

In Finland, the restorative approach is prevalent, with mediation serving as a vital tool within the juvenile justice system. Eskelinen O. and Iivari J. (Eskelinen & Iivari, 2005) emphasize the necessity of child mediation, noting that timely intervention can significantly reduce recidivism. Approximately 50-60% of first-time juvenile offenders cease offending shortly after their initial offense. However, those with multiple offenses pose a greater challenge for mediation's effectiveness. We concur with this assessment while maintaining optimism regarding the potential positive outcomes of mediation, even in complex cases.

The restorative approach is quite popular in Finland. Mediation is used in the field of juvenile justice. This is another working tool in the field of juvenile justice. In Finland, a restorative approach prevails over a punitive one, which is why mediation is actively used among minors.

Since 1995, mediation has played a significant role in Finland's juvenile justice system, with notable declines in incarceration rates. Junger-Tas and Dünkler (Junger-Tas & Dünkler, 2009) documented a decrease in imprisonment for juvenile offenses, reflecting Finland's commitment to using incarceration as a last resort. Legal reforms have reinforced safeguards against coercive measures and underscored the importance of proportionality and predictability in sentencing. Public consensus supports these objectives, with little demand for harsher penalties, even in serious cases.

In Ukraine, mediation is also gaining traction in juvenile justice. The restorative approach is gradually replacing punitive measures. A state-sponsored program allows minors accused of criminal offenses to engage in mediation, reflecting a broader shift towards restorative justice practices. The "Rehabilitation Program for Minors Suspected of Criminal Offenses," established in 2019, facilitates effective communication between minors and their victims, aiming to expedite resocialization and minimize repeat offenses. According to the terms of the Program (Order No. 172/5/10, 2019) "restorative justice was applied in criminal proceedings regarding criminal misdemeanors and minor crimes committed by minors and provided for the coordinated organization of effective communication between such minors and victims of criminal offenses committed by them in order to ensure compensation for damage. damage caused, removal of juvenile offenders from the criminal process as soon as possible with mandatory implementation of agreed measures for their resocialization and prevention of repeated criminal offenses".

Later, the problem started with the adoption of the Law on Mediation (Law No. 1875-IX, 2021). Since the beginning of the implementation of the Program, mediation has been carried out by mediators (lawyers) entered in the Register of Advocates, who provide free secondary legal assistance and have undergone training on the implementation of the Program. But with the adoption of the Law on Mediation, the Resolution of the Cabinet of Ministers of Ukraine dated September 2, 2022 No. 990 "On Amendments to Certain Resolutions of the Cabinet of Ministers of Ukraine Regarding Certain Mediation Issues" some acts were amended (Resolution No. 990, 2022). This situation led to the fact that during 2023, 100% of appeals submitted by prosecutors from minors, victims and their legal representatives were processed by Public Legal Assistance Centers, and preparation for the mediation/mediation procedure was carried out by mediators on a free basis. Recently, a new order of 22.07.2024 No. 2176/5/501/176 appeared on the implementation of the pilot project "Restorative justice program with the participation of minors who are suspects, accused of committing a criminal offense." This is a significant step in the development of restorative justice in Ukraine and means that Ukraine is actively improving restorative justice for minors.

The new program includes (Order No. 2176/5/501/176, 2024) “coordinated organization of effective communication between minors and victims of committed criminal offenses; conducting mediation between the minor and the victim; reintegration and additional means of resocialization of minors (if necessary and possible) and applies to all categories of criminal offenses and can be applied at all stages of criminal proceedings”.

In Ukraine, the negative impact of the armed conflict on juvenile justice is also felt. Children continue to become victims of war. Today neither national nor international measures have achieved the desired effects in full. Further research should focus on identifying the most effective areas of protection of children’s rights in armed conflict outside the legal field (Khodak et al., 2024).

Scientists (Junger-Tas et al., 2010) told that “Finland was the only Nordic country to participate in the first ISRD sweep. When the two Helsinki-based sweeps of 1992 and 2006 are compared, the findings suggest a decrease in most offence types. Only the use of alcohol has remained at the same level. The decrease finding is most robust with respect to property offending, because all available sources confirm the decrease hypothesis. There are several possible reasons of this decreasing trend of juvenile delinquency in Finland. General economic situation has improved in Finland and both families and adolescents themselves have more money to spend. Changes in opportunity structure might be reflected in shoplifting especially”.

It is interesting to compare the different systems of juvenile justice (Petteruti & Fenster, 2011), where “Finland has the most lenient response to juvenile delinquency. Yes, sentences for a given crime in America are typically much longer than those given for the same crime in other advanced, democratic nations. American convicts typically serve sentences five to ten times longer than similarly situated convicts in France or Germany. Sentences for robbery in America are more than twice as long as in England and Wales and more than five times longer than in Finland. American sentences for assault and fraud are four times longer than those in England and Wales and over five times longer than those in Finland. Other nations rely more on fines rather than prison. American courts sentence defendants to prison terms twice as often as Canadian courts, seven times more often than courts in England and Wales, and nine times more often than those in Germany or Finland”.

Many researchers and practitioners note the advantage of a restorative approach over a punitive one. For example (Hamilton, 2021), “benefits to arise from the use of restorative justice conferencing include affording voice, interaction, and input to offenders and victims, affording the opportunity for apology and forgiveness, better outcomes, education, better practice and procedure, the opportunity to make amends, repair reputation and relationships”.

The peculiarity of restorative justice as multidisciplinary describes Velez G. and Gavrielides T. (Velez & Gavrielides, 2022). “Restorative justice lives, to some degree, beyond the realms of criminology, social sciences, applied sciences, and the like. Here, there is plenty of room for everyone, including psychologists, peace psychologists, lawyers, neuroscientists, sociologists, criminologists, etc. However, it is incomplete to believe that applied sciences alone can give clarity and meaning to restorative justice. Restorative justice must also be considered an autonomous field of study that can be explored and developed through a multi-disciplinary approach, such as the one adopted for this volume. Its strong ethical foundations as well as the need to use the power within to control and fight the power structures that could bring its demise are what make it a special field of investigation and application”.

Finland’s commitment to a strategy of minimal intervention has yielded positive outcomes without resorting to punitive measures (Junger-Tas & Dünkler, 2009). Similarly, lenient approaches to youth justice in Finland, Scotland, and Italy have been recognized as successful and inclusive (Cavadino & Dignan, 2005).

A recent survey at the University of Helsinki engaged 38 participants, including academic and research staff with substantial, though not expert-level, knowledge in the field of juvenile justice. The majority of respondents (96%) expressed overall satisfaction with Finland’s juvenile justice system but identified several critical areas requiring improvement:

1. Lengthy trial processes.
2. Isolation of children during pre-trial detention.
3. Co-mingling of minors and adults in detention facilities.

4. Inadequate educational opportunities in detention centers.

These concerns are consistent with the Concluding Observations on the Combined Fifth and Sixth Reports of Finland (Committee on the Rights of the Child, 2023), which highlighted similar deficiencies. The Committee provided recommendations to the Finnish government, urging actions such as:

1. “Developing a comprehensive strategy for preventing juvenile delinquency, focusing on early intervention for children at risk and providing support for their families. It also emphasized the need to reduce trial durations.
2. Ensuring that children are not subjected to isolation during pre-trial detention.
3. Promoting non-judicial measures, including diversion programs, mediation, counseling, and evidence-based therapeutic services for minors accused of criminal offenses. It recommended prioritizing non-custodial measures like probation or community service, with clear guidelines ensuring these measures do not imply guilt.
4. Guaranteeing that, in exceptional cases where deprivation of liberty is necessary, minors are not detained with adults, and ensuring that such detentions are for the shortest time possible and regularly reviewed.
5. Providing long-term support services to detained children and enhancing the quality of education within detention facilities”.

Finland is actively addressing these issues, with an emphasis on maintaining restorative justice principles.

Perspectives on Juvenile Justice: A Child-Centered Approach

Respondents highlighted the importance of a child-friendly approach, emphasizing the best interests of the child as central to an effective juvenile justice system. There was strong support for specialized training for professionals involved in juvenile justice, with recommendations including:

- Knowledge of children's rights.
- Training in multidisciplinary collaboration, particularly in conducting interviews with juvenile offenders.
- Prioritization of non-judicial measures for juvenile offenders.

Debate on Specialized Juvenile Courts

Regarding the establishment of juvenile courts, 85% of respondents felt that such courts are unnecessary if juvenile offenders receive adequate protection within the general court system. In contrast, 15% supported the creation of specialized juvenile courts. Notably, neither Finland nor Ukraine currently has dedicated juvenile courts.

Gender Sensitivity in Juvenile Justice

The survey also assessed attitudes towards gender sensitivity, with unanimous agreement (100%) on its critical importance. The growing focus on gender equality in juvenile justice underscores the need for appropriate legal frameworks, community responses, and targeted interventions to uphold human rights within these systems.

Recent studies advocate for enhanced legal regulations, policy promotion, and monitoring mechanisms to ensure gender-sensitive approaches within juvenile justice systems (Vasishta, 2024). This aligns with Ukraine's approach, where proposals have emerged to implement probation programs tailored separately for male and female minors, as well as develop gender-sensitive methodological materials (Khmelevska, 2023). This approach aims to address diverse needs while maintaining gender equality.

Differentiating Penalties for Minors

All respondents (100%) agreed that penalties for minors should differ from those applied to adults, emphasizing the need for a justice system that considers the developmental and psychological differences between minors and adults.

The survey conducted at the University of Helsinki highlights the importance of a child-centered and restorative approach in juvenile justice, emphasizing specialized training, multidisciplinary collaboration, and gender sensitivity. The findings indicate that while Finland is committed to advancing its juvenile justice system, Ukraine faces challenges in effectively integrating restorative justice practices. Nevertheless, both countries share a common goal of developing child-friendly and equitable juvenile justice systems.

During the past half century (Leone, 2020), “the Finns have transformed their juvenile and criminal justice system from a punitive, expensive, and ineffective one to one that produces better outcomes at less cost without sacrificing public safety”.

Conclusions

This research of the juvenile justice systems of Finland and Ukraine sheds light on the modern approach to juvenile justice in both countries, which have both differences and certain similarities in the development of juvenile justice. Finland, with its progressive approach to juvenile justice, has demonstrated the effectiveness of the principles of restorative justice, early intervention and rehabilitation, although some problems have been identified there, such as the length of trials, the isolation of children during pre-trial detention, the co-location of juveniles and adults in places of deprivation of liberty, and inadequate educational opportunities in places of deprivation of liberty. These specific problems need to be addressed through the correction of legislative regulation.

Ukraine, despite the successes of recent years, still faces more serious challenges in implementing effective reforms in the field of juvenile justice.

The results of this study highlight the importance of a child-centered approach, emphasizing the best interests of the child. Key recommendations for Ukraine:

Strengthening the legislative framework: Developing comprehensive legislation that meets international standards and prioritizes the rights of the child.

Investing in prevention and early intervention: Implementing evidence-based programs to address the root causes of juvenile delinquency.

Promoting restorative justice: Encouraging the use of mediation and other restorative justice practices to address harm and promote reconciliation.

Improving detention conditions: Ensuring safe, humane, and rehabilitative prisons.

Ensuring adequate training for justice professionals: Equipping justice professionals with the skills and knowledge to work effectively with young offenders.

While Finland is a valuable model for Ukraine, it is important to consider the unique socio-cultural and economic context of each country. By learning from Finland’s experience and adapting it to local needs, Ukraine can create a more effective and humane juvenile justice system.

Future research should examine the long-term impact of different juvenile justice interventions, the effectiveness of restorative justice programs in different cultural contexts, and the role of gender and ethnicity in juvenile justice outcomes. In addition, further research is needed to examine the impact of socio-economic factors on juvenile delinquency and rehabilitation.

By addressing these research gaps and implementing evidence-based policies, we can work toward a future where all young people have access to child-friendly justice.

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The ideology of environmental justice: a Ukrainian case study

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Abstract

The relevance of the study is related to the need for a theoretical and legal characterization of environmental justice as a legal phenomenon, as well as the development of a legal mechanism for its establishment in order to implement the principle of sustainable development. The dialectical method, methods of analysis, concretization, idealization, comparison, historical and other methods were used to achieve the purpose of the study. The paper reveals the essence of environmental justice as an advanced concept of society development. The ideology of environmental justice is based on equal access of people to a clean, healthy and sustainable environment, which is equated to the right to an environment that is safe for life and health in Ukrainian legislation. The paper pays special attention to the study of the phenomenon of sacrifice zones, approaches to their understanding

Анотація

Актуальність роботи обумовлена необхідністю теоретико-правової характеристики екологічної справедливості як правового явища, а також розбудови правового механізму її утвердження задля реалізації принципу сталого розвитку. Для досягнення мети цього дослідження було використано діалектичний метод, методи аналізу, конкретизації, ідеалізації, порівняння, історичний та інші методи. У статті розкривається сутність екологічної справедливості як передової концепції розвитку суспільства. В основу ідеології екологічної справедливості закладено рівний доступ людей до чистого, здорового і сталого довкілля, який в українському законодавстві прирівнюється до права на безпечне для життя і здоров'я довкілля. Особлива увага у цій статті приділяється дослідженню явища пожертвуваних зон, підходам до їх розуміння та характеристикам. У

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and characteristics. In the context of long-term hostilities in Ukraine, the combination of traditional (consequences of economic activity) and new (consequences of hostilities) environmental hazards, complex types of sacrifice zones (military impact zones) appear. The features of military impact zone are proposed to include the following: it involves other types of sacrifice zones; it "absorbs" nature reserves and other protected areas; ongoing hostilities, the presence of mines and other explosive objects hinder the implementation of environmental policy goals. Social payments (both temporary and permanent) can be a means of partial implementation of the principle of environmental justice for the population living in sacrifice zones.

Keywords: environmental justice, environmental risk, military impact, sacrifice zones, sustainable development.

контексті тривалих воєнних дій в Україні, поєднання традиційних (наслідки економічної діяльності) і нових (наслідки воєнних дій) видів екологічних небезпек з'являються комплексні типи пожертвуваних зон (зони мілітарного впливу). До особливостей зони мілітарного впливу пропонується віднести наступні: така зона включає інші види пожертвуваних зон; вона "поглинає" об'єкти природно-заповідного фонду, інші території та об'єкти, що підлягають особливій охороні; незавершені воєнні дії, присутність мін та інших вибухонебезпечних предметів перешкоджають ефективній реалізації цілей і завдань державної екологічної політики. Засобом часткової реалізації принципу екологічної справедливості щодо населення, яке проживає в пожертвуваних зонах, можуть стати соціальні виплати (як тимчасові, так і постійні).

Ключові слова: екологічна справедливість, екологічний ризик, мілітарний вплив, пожертвовані зони, сталий розвиток.

Introduction

The problem of environmental justice is becoming increasingly relevant in the modern world, where the intensive use of natural resources seriously worsens environmental and social situation. Like in many other countries, environmental injustice in Ukraine are generally related to unequal distribution of environmental risks and benefits, which negatively affects various segments of the population and some regions. According to the Strategy of the State Environmental Policy of Ukraine for the period up to 2030, the differences in the socio-economic development of the regions of Ukraine cause an uneven man-made load on the environment. Industrial regions are characterized by a consistently high level of air pollution, a shortage of drinking water, depletion of groundwater horizons, significant changes in the geological environment and the occurrence of natural and man-made emergencies as a result of intensive mining. The state pays special attention to the environmental problems of coal regions and plans to solve them in conjunction with other problems within the program of fair transformation of these regions for the period up to 2030. Environmental risks in these regions are extremely high against the backdrop of the war that has been going on in Ukraine for more than a decade.

According to the State Environmental Inspectorate of Ukraine, the environmental damage caused by armed aggression was estimated at UAH 2.56 trillion in August 2024. Since the beginning of the full-scale invasion, 5531 cases of environmental damage have been documented. At the same time, the approximate amount of damage caused to the environment only as a result of the destruction of the Kakhovka hydroelectric power station by the Russian military is UAH 146 billion (Ministry of Environmental Protection and Natural Resources of Ukraine, 2023). The environmental impact of armed aggression is multifaceted and includes the consequences of the seizure of nuclear power plants, flooding of mines, destruction of environmentally hazardous industrial facilities, mining of agricultural landscapes and other areas, mass felling and burning of forest and agricultural land, generation of waste from the destruction of buildings and military equipment, loss of biodiversity, etc. It is also important that in the 24 months since the invasion emissions have increased to 175 million tons of carbon dioxide, the equivalent of putting 90 million new petrol cars on the road, or building 260 coal-fired power units of 200 MW each (Ecoaction, 2024).

The relevance of the study is related to the need to integrate the principles of sustainable development into national legislation and natural resource management. There is still a lack of a system approach in developing theoretical provisions regarding the legal content and supremacy of the ideology of environmental justice in Ukraine, especially in the context of a long and exhausting war. These theoretical foundations are crucial as a basis for creation effective legal mechanisms for the fair distribution of

environmental benefits and risks, the protection of the environmental rights, and promoting public participation in the adoption of environmentally important decisions.

Taking into consideration that the main problems in implementing the principle of environmental justice are social inequality, a low level of environmental awareness, imperfect legal regulation, etc., the **purpose** of the study is to analyze and develop conceptual grounds of establishing the ideology of environmental justice through legal means. This can contribute to further improvement and implementation of environmental and other legislation.

This study examines the following issues in their interrelation: the content of the principle of environmental justice in its legal sense; the relationship between environmental justice and the fundamental right to an environment that is safe for life and health; the phenomenon of sacrifice zones and the significance of their elimination for ensuring environmental justice; transformation of sacrifice zones in the context of the war in Ukraine.

The sequence and interconnection of these issues determine the logic of presenting the material and constructing the article to achieve the purpose of the study. The peculiarity of the article is the transition from the general theory of environmental justice to the special theory of sacrifice zones, which makes it possible to consider the problems under study from the perspective of opposite concepts – environmental justice and environmental injustice.

Literature Review

Some issues of the formation and development of the ideology of environmental justice have already been considered in foreign and Ukrainian literature.

The famous American scholar and environmental justice activist Robert Bullard made a significant contribution to the study of the impact of environmental policy on social minorities and marginalized communities. His research shows the disproportionate impact of environmental problems on local communities (Bullard, 1994). The book "Dumping in Dixie: Race, Class, and Environmental Quality" is a classic study in this field that highlights environmental inequalities (Bullard, 1992).

Sociologist and environmental activist Michael M. Bell, whose research focuses on the social aspects of environmental problems and their impact on various communities, also made a significant contribution to the development of this theory. Michael M. Bell is known for his approach to the study of rural communities and their interaction with environmental conditions. In particular, he examines how social structures and cultural practices influence the perception and resolution of environmental issues (Bell, 2024). Michael M. Bell also draws attention to the importance of biodiversity conservation and sustainable development, emphasizing that environmental justice considers both human and natural systems (Goetting & Bell, 2011).

Karen Bell (2014) continues the research in the field of environmental justice and concentrates on the disproportionate distribution of environmental risks, social and environmental aspects in the policies of different countries, the formation of sustainable and equitable communities, as well as other issues of the relationship between environmental problems and social inequality.

Steve Lerner is a well-known environmental justice researcher who focuses on documenting and raising awareness of environmental injustice. His most famous works are "Diamond: A Struggle for Environmental Justice in Louisiana's Chemical Corridor" (it describes the struggle of the African-American community in Louisiana against chemical pollution) (Lerner, 2005) and "Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States" (the author explores communities suffering from high levels of toxic pollution) (Lerner, 2010).

Ryan Juskus (2023), who draws a parallel between depletion of the environment and the development of religious and spiritual beliefs that can contribute to environmental ethics and ecoactivism, also speaks about the impact of mining and chemical production on local communities.

Maya K. van Rossum (2022), who is a famous environmental activist, argues for the need to amend state constitutions and the Constitution of the United States to enshrine the right to clean air, clean water and a healthy environment.

It is also important that the concept of environmental justice is not new to modern society. Its origin is associated with the ethnic minorities of the United States, who started the movement for equal environmental rights in an effort to overcome environmental racism, which was widespread until the middle of the twentieth century (Malin et al., 2019). From the beginning, there was a lot of debate among scholars about expanding the content of this concept. Initially, the essence of environmental justice at first was reduced to the unequal impact of toxic waste pollution on ethnic minorities and people with low social status, but later the range of such impacts was expanded and included the fight against industrial air pollution, noise, natural and man-made accidents and disasters, etc. (Sze & London, 2008).

In the context of this study, it is also important to pay attention to the publications devoted to the problems of international mechanisms for the protection of human rights under martial law (Kuchyk et al., 2023) and the scientific-philosophical methodology of a holistic approach to addressing the global environmental challenge (Shorina et al., 2024).

There are certain theoretical developments in the field of environmental justice in Ukrainian science. In particular, V. Andreytsev (2002) substantiated the concept of the law of environmental safety and revealed the features of the right to an environment that is safe for life and health. T. Hudima (2018) and L. Golovko (2024) discuss some problems of implementing the principle of environmental justice. V. Kostytsky, & I. Kostytska (2020) and M. Krasnova (2021) are the founders of the theory of the environmental state, in which the principle of environmental justice plays a major role. In addition, O. Pavlova (2017) identified the peculiarities of public participation in creating the environmental state.

The findings of foreign and Ukrainian researchers provide a basis for further development of theoretical and legal grounds for strengthening the ideology of environmental justice in Ukraine and other countries. At the same time, the current level of the theory does not give answers to the questions that are supposed to be considered in this study.

Methodology

The methodological basis of the study consists of philosophical, general and special methods.

The dialectical method made it possible to consider the ways to ensure environmental justice through the prism of eliminating environmental injustice. In this context, the law of the unity and conflict of opposites is especially important, as it allows us to explore the categories of "justice" and "injustice" in an inseparable connection and dependence. The method of analysis contributed to the identification of the main problems that complicate the realization of the right to an environment that is safe for life and health in Ukraine. Breaking down a complex problem into separate components makes it easier to find the causes of their occurrence and ways to solve them. The elements of the complex legal mechanism for ensuring environmental safety, including environmental planning (programming) and forecasting, strategic environmental assessment, ecological zoning of territories, environmental accounting, etc., were proposed by applying the method of concretization. In this case, the ascent from the abstract to the concrete fills this mechanism with the content and creates a conceptual basis for improving the strategy of state environmental policy and environmental legislation. Idealization was the methodological basis for determining the goal of environmental policy, namely ensuring the maximum even distribution of technogenic environmental risk throughout the territory of Ukraine. This goal reflects the desired (ideal) state of environmental safety, the full achievement of which is almost impossible. The comparison method was used to find out the difference between air quality standards for fine particulate matter adopted by the World Health Organization, the US Environmental Protection Agency and Ukraine. The obtained data can be used to improve the environmental monitoring system in Ukraine regarding air quality standards. The historical method made it possible to investigate the emergence and development of theoretical ideas regarding the concept of sacrifice zones. The prognostic method helped to assess the future prospects for the improvement of legal framework of establishing the ideology of environmental justice. The texts of legal acts were analyzed based on the dogmatic method, which is especially valuable for clarifying the formal content of legal provisions in their purest form as "the letter of the law".

This article also takes into consideration theoretical and empirical data on the compliance with the principle of environmental justice in Ukraine and the possibilities of ensuring it during the war and post-war times. The combination of the aforementioned methods made it possible to formulate specific theoretical provisions and proposals for improving the legal mechanism for ensuring environmental justice in Ukraine.

The main conclusions and results of the study are based on the analysis of national and international legal acts and other documents, in particular: the United Nations General Assembly Resolution 76/300 of July 28, 2022 "The human right to a clean, healthy and sustainable environment" (United Nations, 2022); the United Nations General Assembly Resolution 52/23 of April 4, 2023 "The human right to a clean, healthy and sustainable environment" (United Nations, 2023); the Constitution of Ukraine (Law No. 254к/96-BP, 1996); the Law of Ukraine "On Environmental Protection" (Law No. 1264-XII, 1991); the Land Code of Ukraine (Law No. 2768-III, 2001); and other documents.

Results and Discussion

Progress in the modern world is inextricably connected with adherence to the principle of sustainable development. According to this principle, all countries of the world should build a legal mechanism for the interaction of three components – economic, social and environmental. The principles on environment and development were enshrined in the Stockholm Declaration of 1972, and the Rio Declaration of 1992 confirmed this point (Libanova, 2019). The interaction of these three components makes it possible to implement the principle of justice based on the idea of equal rights and the harmonization of human interests (Horbatenko, 2003).

The principle of justice is a fundamental idea, the goal of law and has a wide scope of application (Holovchenko, 2012; Mareček & Golovko, 2022). This principle is interpreted as a principle of environmental justice in the field of environmental law (Hudima, 2018). Environmental justice is closely related to social justice, since there is not only an uneven distribution of the effects of environmental problems in society, but also social inequality is the cause of environmental problems. Social inequality is both a consequence and a cause of pollution, overconsumption, depletion of natural resources, loss of natural habitats, risky technologies, rapid population growth, etc. (Bell et al., 2020). For this reason, the modern technogenic society is the biggest polluter of the environment and at the same time one of the objects that suffer from pollution.

Environmental justice means the fair treatment and participation of all people in the development, implementation and enforcement of environmental laws, rules and policies (Beretta, 2012; Bell, 2014). However, this goal is achievable only if state guarantees protection against possible environmental hazards (environmental risks) and equal access to the decision-making process related to the environment.

According to the UNDP Environmental Justice Strategy, in order to accelerate the global movement towards environmental justice, countries need: 1) to speed up strengthening the environmental rule of law; 2) to provide for strong and effective national legal frameworks that stimulate fair and sustainable environmental management; 3) to guarantee access to justice on environmental matters (UNDP, 2022). It is also important that this activity is properly coordinated between countries by creating a single legal mechanism for the development of an environmentally just state.

In this regard, the declaration of the human right to a clean, healthy and sustainable environment by the UN General Assembly in Resolution A/RES/76/300 and Resolution A/HRC/RES/52/23 is a significant international event, which requires full implementation of multilateral environmental agreements in accordance with the principles of international environmental law. These UN documents actually enshrine features of the right to an environment that is safe for life and health that is a fundamental right in the legislation of Ukraine (Article 50 of the Constitution of Ukraine and Article 9 of the Law of Ukraine "On Environmental Protection"). Researchers describe this right as complex as it includes other environmental rights (the right to clean and high-quality air, water, plant and animal products, the right of free access to environmental information and other rights) (Krasnova & Krasnova, 2021).

The full realization of the right to an environment that is safe for life and health is hindered by the following problems: 1) as this right is fundamental and integrated, it is implemented only through the entire legal mechanism for ensuring environmental safety; 2) lack of experience in limiting, stopping and terminating environmentally hazardous activities in Ukraine and judicial practice in this area; 3) imperfection of environmental monitoring and accounting; 4) lack of the methodology of compensation for environmental damage caused to human life and health; 5) the need to develop environmental justice institutions, etc. Measures provided for by the Law of Ukraine "On Environmental Protection" and other legal acts are insufficient to solve these problems. It has been specified that a complex legal mechanism for ensuring environmental safety should cover: environmental planning (programming) and forecasting; strategic

environmental assessment; ecological zoning of territories; environmental impact assessment; environmental accounting; civil liability insurance of business entities for damage that caused by accidents at high-risk facilities and during the transportation of dangerous goods; permit and license system; environmental certification; environmental labeling; environmental taxation; environmental audit; environmental monitoring; and other elements (Krasnova, 2018).

In particular, it is necessary to take into account that environmental monitoring data may differ significantly from real indicators due to the number, accuracy and variety of monitoring installations, as well as an incomplete list of harmful substances and impacts that the Ukrainian Hydrometeorological Center covers for monitoring. Specialists of the NGO "SaveDnipro" have repeatedly drawn attention to this problem. The current trend is not only to expand the list of harmful substances that are subject to environmental monitoring, but also to strengthen the established standards. For the first time since 2012, the US Environmental Protection Agency (EPA) has tightened the annual health-based national ambient air quality standard for fine particulate matter (PM_{2.5}) from a level of 12 micrograms per cubic meter to 9 micrograms per cubic meter. The new American standard is higher than the recommendation of the World Health Organization (5 micrograms per cubic meter), but much lower than the limit set in Ukraine (25 micrograms per cubic meter) (SaveDnipro, 2023). This indicates the need for significant improvement of the environmental monitoring system in Ukraine, as it is directly related to the further possibility of people to defend their right to an environment that is safe for life and health in courts and other state authorities.

Ideally, environmental policy should be aimed at ensuring the maximum even distribution of technogenic environmental risk throughout the territory of Ukraine. Nonetheless, achieving this goal is currently impossible due to the hostilities and the need for investments to close or relocate environmentally hazardous facilities. These problems are associated with the so-called "sacrifice zones".

The concept of sacrifice zones originated in the field of animal husbandry, where it concerned methods of balancing economic and environmental costs and benefits. This concept was developed to index various land use methods for managing pasture and livestock farms: some of them were completely depleted, while others remained green in the long term (U.S. Department of the Interior, Bureau of Indian Affairs, 1973; Collier, 1970). Later, sacrifice zones began to be understood as any geographical areas that are subject to disproportionately large industrial pollution, where chemical or other types of harmful effects (physical, biological) are mainly related to the interests of industry and national security (Lerner, 2010).

The existence of sacrifice zones is a manifestation of environmental injustice and a violation of the balance in the relationship between humanity and nature. These zones are considered as: 1) areas with an increased influence of environmentally hazardous facilities; 2) part of the legacy of environmental racism and environmental injustice; 3) areas of mass disease due to consumption of polluted environment; 4) the moral stain of the nation (The Climate Reality Project, s/f).

The development of the theory of sacrifice zones resulted in the emergence of scientific and social currents against "extractivism" – the excessive extraction of all types of materials from nature (Fondation Danielle Mitterrand, 2017). However, the expansion of these areas continues due to the lack of effective industrial policies, accompanied by excessive degradation and pollution of the environment (van Rossum, 2022).

David R. Boyd, the UN Special Rapporteur on human rights and the environment, raised the issue of eliminating sacrifice zones in March 2022 (Human Rights Council, 2022). He believes that the reason for their emergence is the collusion of governments and business, which is the diametric opposite of the principle of sustainable development. The world community also considers the declaration of the human right to a clean, healthy and sustainable environment by the UN General Assembly in Resolution A/RES/76/300 and Resolution A/HRC/RES/52/23 to be a turning point in the campaign against sacrifice zones.

The theory of sacrifice zones developed in foreign science can contribute to solving both traditional and new environmental problems in Ukraine. The process of industrialization on the territory of Ukraine began in the 20s of the 20th century. The Ukrainian SSR was chosen as the main platform for industrialization in the USSR, since the main coal deposits and metallurgical enterprises built earlier were located here. The goal of this process was the primary development of the fuel, energy, chemical, machine and other subsectors of the industry. This led to the emergence of numerous sacrifice zones located mainly in the

eastern and southern parts of Ukraine. There is also a territory in the north of Ukraine that has undergone radioactive contamination because of the Chernobyl disaster in 1986.

The old industrial regions of the east and south of Ukraine are clear examples of new types of sacrifice zones formed under the military factors. In the context of active armed confrontation and intense hostilities, the problem of the environmental consequences of the war comes to the fore. The State Environmental Inspectorate of Ukraine and its territorial bodies have already recorded 5531 cases of environmental damage due to Russian armed aggression; the total amount of damages is estimated at more than UAH 2.56 trillion. These are only the direct environmental effects of a full-scale Russian invasion that are obvious. It is much more difficult to assess the scale of future environmental damage caused by hostilities, which will gradually manifest itself in the short, medium and long term in the multifaceted interaction of all environmental impact factors.

During the war in Donbas, which began in 2014, we realized all the complexity and ambiguity of the environmental consequences of the war. The direct damage caused to various components of the environment and ecosystems resulting from the use of weapons, military equipment, terrorist acts and sabotage is only the external and most understandable part of the military impact on the environment. However, during the active phase of the war and after it, indirect, cumulative and other less obvious types of environmental impact related to military factors require special attention. In particular, the cumulative effect is caused by the accumulation and combination of various anthropogenic and natural factors on the environment and human health. The armed confrontation in the east of Ukraine before the full-scale war with Russia made it possible to see how its implications exacerbate the environmental problems traditional for this region and "enter into a dangerous reaction with them". The hostilities led to the termination of many industrial enterprises, disruption of the operation of hazardous facilities, their damage and destruction, as well as temporary measures that limited state functions in the field of environmental protection (moratorium on state environmental control, extension of the term of environmental permits, etc.) (Trehub, 2020). War-induced "pressure" on the environment, both in nature and in scale, is significantly different from "extractivism" and pollution typical for peacetime and associated with the functioning of industries, agriculture and transport.

Therefore, the problem of eliminating so-called "ordinary" sacrifice zones is transformed into the comprehensive environmental restoration of the country in war and postwar times. It can be argued that all war-affected territories form a new sacrifice zone (military impact zone) with its special characteristics.

Firstly, military impact zone involves other types of sacrifice zones, namely: traditional sacrifice zones (centers of economic activity formed historically or created before the war within the planning of territories and placement of productive forces); sacrifice zones resulting from accidents at dangerous facilities (an example is the Chernobyl Exclusion Zone, which was under Russian occupation from February to March 2022 and 95% of which is still considered mined); test and experiment zones (these include the Yunkom mine in Yenakiyev, where an experimental nuclear explosion was conducted in 1979); zones of direct hostilities, in particular mined areas; other types of sacrifice zones.

Secondly, military impact zone "absorbs" not only the territories where increased environmental risks and an unfavorable environmental situation were present before the war, but also nature reserves and other protected areas. According to the Ministry of Environmental Protection and Natural Resources of Ukraine, more than 20% of Ukraine's protected areas have been affected by the war.

Thirdly, ongoing hostilities, as well as the presence of mines and other explosive objects in post-conflict territories hinder the implementation of environmental policy goals. In August 2024, suspected hazardous area of Ukrainian territory was 144,000 km² (Demine Ukraine, 2024).

Despite the successful foreign experience of managing sacrifice zones, Ukraine should become one of the pioneers in developing a strategy for the restoration of territories that have suffered from a number of factors simultaneously (including war, resource- and energy-intensive industries, etc.).

One of the guarantees of the right to an environment that is safe for life and health in Ukrainian legislation is the procedure for approval of the construction of environmentally hazardous facilities that cause the emergence of sacrifice zones. According to the Law of Ukraine "On Environmental Impact Assessment",

the basis of this activity is the obligation to comply with special legislation during construction, especially with the legislation on zoning of territories (Law No. 2059-VIII, 2017).

According to the State Building Standards (2018) "Composition and content of the territory zoning plan", zoning is the establishment of territorial zones within the settlement with the determination of the appropriate types of use of the territory, real estate and the establishment of urban planning regulations. Zoning is also urban planning documentation that sets the conditions and restrictions on the use of the territory for urban planning needs within the established zones.

In Article 112 of the Land Code of Ukraine, zoning is associated with special protection zones (Krasnova, 2011). They are designed to prevent the negative impact of sources of environmental hazard (Semchyk, 2007), which actually confirms the state recognition of sacrifice zones. Ukrainian legislation distinguishes many types of protection zones, including sanitary protection zones, special protection zones for transport (aerodrome environs, air approach strips, coastal strips of waterways, protective strips of forests), etc. The legal regime of protection zones is determined for hydrometeorological stations, communication lines, power lines, transport lands and other objects. Nevertheless, they do not guarantee the full realization of the right to an environment that is safe for life and health.

The main indicator of sacrifice zones is environmental risk, which should be controlled by the state. Taking into consideration the types, geography and number of sacrifice zones, it is impossible to ensure the same level of environmental risk on the territory of Ukraine. Technogenic environmental risks (primarily risks resulting from hostilities) prevail in the eastern and southern regions of Ukraine, and natural environmental risks are inherent in the western regions. At the same time, there has been a gradual "migration" of technogenic environmental risks to the western and central regions of the country since the full-scale invasion and relocation of many enterprises.

Code of Civil Protection of Ukraine also provides for measures to resettle the population from technogenically affected areas (Law No. 5403-VI, 2012). However, these measures are taken only in case of emergencies.

Reducing technogenic environmental risks is nearly impossible now and at least until the end of active hostilities and the beginning of recovery measures throughout the country. In this case, social payments for the population (Tarasenko, 2018) living in sacrifice zones could be a means to implement partially the principle of environmental justice. Potential sources of payments include environmental tax, funds aimed at eliminating and localizing the consequences of emergencies, as well as compensation for environmental damage caused by the aggressor country. Payments can be either temporary or permanent.

In addition, an important task is developing an effective system of environmental protection, law enforcement and judicial institutions that specialize in handling cases of environmental offenses. Environmental courts, which function successfully in many countries, should be created in Ukraine. The biggest obstacles to quick and effective consideration of environmental cases in Ukrainian courts are: lack of generalization of judicial practice in this area; application of the principle of jurisdiction; overloading of courts with other categories of cases; insufficient qualification of judges in this field; passivity of the public regarding the protection of environmental rights; various mandatory examinations confirming the cause-and-effect relationship.

The limitations of this study are primarily related to the lack of complete and reliable data on environmental damage caused by hostilities. This is due to different factors, including the lack of a perfect methodology for determining this damage, the incompleteness of hostilities, the inaccessibility of territories where armed confrontation takes place, the constant deterioration of the environmental situation, etc. As a result, it is often necessary to rely on intermediate data and reasonable assumptions. It should be added that there are only fragmentary sources of information regarding the impact of hostilities on environmental legislation and ways to improve it in the legal literature. This is especially true for the theory of environmental law, which needs to be substantially revised and enriched.

The findings of the study can be useful in the development of strategies, concepts, plans and programs in the environmental field, in particular the environmental part of the Post-War Recovery and Development Plan for Ukraine, the new Strategy of the State Environmental Policy of Ukraine, etc. Another area of application of these results is lawmaking. The National Academy of Sciences of Ukraine will use key

provisions of the article to prepare the Scientific Concept for the Development of Ukrainian Legislation, which is sent to the Cabinet of Ministers of Ukraine every five years for its consideration in the planning of lawmaking. The findings will also be used in drafting of environmental laws, as well as in expert and educational activities.

Conclusions

In the idealistic sense, the principle of environmental justice is one of the pillars of sustainable development and provides for equal environmental conditions for all people, universal minimization of environmental risks, and the involvement of everyone in environmental decision-making. The content of this principle is detailed by the UNDP that has developed a global strategy for environmental justice with a multidisciplinary, people-centred and environmental rights-based approach. The implementation of the strategy depends on the integrated efforts of states to strengthen the environmental rule of law, create an effective legal framework and provide access to justice on environmental matters.

The declaration of the human right to a clean, healthy and sustainable environment in the resolutions of the UN General Assembly has greatly increased the influence of the principle of environmental justice at both the international and national levels. However, this approach is not new for Ukraine, since the Constitution of Ukraine (1996) and the Law of Ukraine "On Environmental Protection" (1991) enshrined the right to an environment that is safe for life and health. These rights are very close in their content, because the above-mentioned characteristics ("clean, healthy and sustainable") actually indicate the safety of the environment. The theory of environmental law provides an expansive interpretation of the right to an environment that is safe for life and health as encompassing other environmental rights. In this regard, the extent to which this right can be realized is determined by the effectiveness of the legal mechanism for ensuring environmental safety as a whole.

It is extremely important that the problem of overcoming environmental injustice, on the one hand, and ensuring environmental justice, on the other hand, is closely related to the phenomenon of sacrifice zones. Originating in the field of animal husbandry and initially having a narrow meaning, this concept was significantly scaled and enriched with new characteristics over time. Eventually, sacrifice zones began to be associated with excessive industrial pollution of certain areas and the operation of environmentally hazardous facilities. The UN also relies on this meaning of the concept of sacrifice zones. Nevertheless, this study shows that the existing theoretical ideas no longer meet the new challenges, due to which the traditional influence of industry is aggravated by military factors. Wars are an integral part of human history, but breakthroughs in military technology and new types of weapons have made the environmental consequences of modern warfare catastrophic. The accumulation and interaction of various destructive factors, including military ones, have led to the emergence of new (complex) types of sacrifice zones. The former industrial regions of eastern and southern Ukraine, which have become the main theatre of hostilities, are a clear confirmation of this idea. From the perspective of the principle of environmental justice, military impact zones pose a triple danger as they cover other types of sacrifice zones, involve protected areas and impede the realization of environmental policy goals in general. In this regard, Ukraine will have to develop a largely unique strategy for eliminating mixed sacrifice zones in the war-affected territories. These provisions are a key part of the article and deserve special attention.

This study can become the basis for further development of the theory of sacrifice zones, taking into account the intensification of military threats, the reassessment of the environmental impact of modern warfare, as well as the combination of traditional and new environmental challenges. The proposed direction of research can open up new horizons for finding ways to implement the principle of environmental justice. In future research, it is necessary to analyze more deeply the problems of the formation of new types of sacrifice zones, the migration of technogenic environmental risks caused by the war and the related change in the fundamental approaches to the legal regulation of environmental relations.

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Revolutionizing EFL learning through ChatGPT: A qualitative study

التحول السريع في تعلم اللغة الإنجليزية كلغة أجنبية عن طريق تشات جي بي تي: دراسة نوعية

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Abstract

Incorporating artificial intelligence (AI) technologies has a significant role in teaching and learning English as a Foreign Language (EFL). ChatGPT, developed by OpenAI as a conversational generative AI tool, has the potential to enhance the teaching and learning of English effectively. This study aims to explore the role of using ChatGPT in learning English among students at the University of Hail in Saudi Arabia. The results from six individual interviews and four focus group interviews revealed several contributions to students' learning. Students recognise that ChatGPT has enhanced their English language skills, such as reading, writing, grammar, and spelling. Also, it promoted self-directed learning, and facilitated effective interaction by providing personalised support and occasionally substituting the role of the teacher. Additionally, ChatGPT has improved students' research skills by facilitating brainstorming, feedback, and access to diverse resources. Students noted that ChatGPT has fostered curiosity in learning and seeking knowledge through asking questions and receiving prompt answers. However, despite the benefits, students also revealed challenges, such as over-reliance on technology and occasional inaccuracies in the information provided. These findings are particularly important in the current context of AI integration in education, where educators and students are exploring new ways to enhance learning experiences and outcomes. Also, they call for intensive training on how to effectively utilize ChatGPT in the field of teaching EFL. This study provides valuable information for teachers, administrators, and curriculum developers who aim to use AI to enhance language learning. Future research should explore the long-term effects of AI tools like ChatGPT on language retention, the integration of AI into diverse curricula and ethical implications of its use in EFL education.

Keywords: ChatGPT, Chatbot, Artificial Intelligence (AI), EFL learning, TESOL.

المخلص

تقوم تقنيات الذكاء الاصطناعي بدور مهم في تدريس اللغة الإنجليزية كلغة أجنبية. يُعتبر تشات جي بي تي، كأداة ذكاء اصطناعي مولدة للحوار، وسيلة فعالة لتعزيز تدريس اللغة الإنجليزية وتعلمها. تهدف هذه الدراسة إلى استكشاف دور استخدام تشات جي بي تي في تعلم اللغة الإنجليزية بين الطلاب في جامعة حائل بالملكة العربية السعودية. أظهرت نتائج ست مقابلات فردية وأربع مقابلات جماعية عدة مساهمات في تعلم الطلاب. فقد أظهرت النتائج أن تشات جي بي تي قد حسّن مهارات الطلاب في اللغة الإنجليزية كالقراءة والكتابة والنحو، وعزز التعلم الذاتي، وساهم في تسهيل التفاعل الفعّال من خلال توفير دعم شخصي وأحياناً التعويض عن دور المعلم. علاوة على ذلك، حسّن تشات جي بي تي مهارات البحث لدى الطلاب من خلال تسهيل العصف الذهني، وتقديم التغذية الراجعة، والوصول إلى موارد متنوعة. أشار الطلاب إلى أن تشات جي بي تي قد عزز فضولهم في التعلم والسعي نحو المعرفة من خلال طرح الأسئلة والحصول على إجابات سريعة. ومع ذلك، ورغم الفوائد، كشف الطلاب أيضاً عن تحديات، مثل الاعتماد المفرط على التكنولوجيا ووجود بعض الأخطاء العرضية في المعلومات المقدمة. تدعو هذه النتائج إلى ضرورة توفير تدريب مكثف حول كيفية استخدام تشات جي بي تي بفعالية في مجال تدريس اللغة الإنجليزية كلغة أجنبية. تقدم هذه الدراسة معلومات قيمة للمعلمين والإداريين ومطوري المناهج الذين يهدفون إلى استخدام الذكاء الاصطناعي لتعزيز تعلم اللغات. في الختام، تبرز هذه الدراسة إمكانات أدوات الذكاء الاصطناعي مثل ChatGPT في تعزيز تعلم اللغة، مع تداعيات هامة على ممارسات التدريس والبحث المستقبلي، لا سيما في تحسين دمجها مع معالجة التحديات مثل الاعتماد المفرط والدقة.

الكلمات المفتاحية: تشات جي بي تي، دردشة آلية، الذكاء الاصطناعي، تعلم اللغة الإنجليزية كلغة أجنبية.

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Introduction

English as a Foreign Language (EFL) instruction and learning have been significantly transformed by the of artificial intelligence (AI) technologies. Among these technologies, ChatGPT, a conversational generative AI tool developed by OpenAI, has emerged as a promising asset in enhancing second language acquisition (Barrot, 2024; Han, 2024; Li et al., 2024; Mosaiyebzadeh et al., 2023; Sain et al., 2024). As the field of Teaching English to Speakers of Other Languages (TESOL) continues to evolve with the constantly developing capabilities of these tools, it is crucial to explore the true potential of such AI-driven tools in supporting language learners and educators alike (Han, 2024).

The rapid advancement of AI technologies in education has opened up new possibilities for personalized learning experiences and innovative pedagogical approaches (Choi et al., 2024; Huang et al., 2023; Kuddus, 2022). With its ability to generate human-like textual input, ChatGPT offers unique opportunities for EFL students to engage in interactive language practice (Zou, Guan, et al., 2023; Zou, Reinders, et al., 2023), receive instant feedback (Muthmainnah et al., 2024; Wei, 2023), and access a wealth of information in their target language (Alshammari, 2024; Junaidi, 2020). Moreover, AI tools like ChatGPT can be effective in addressing issues like lack of confidence and fear of making mistakes, which are common challenges in EFL contexts in Saudi Arabia (Alrabai, 2016), by providing a non-judgmental, private environment for students to practice their speaking and pronunciation skills and potentially boost their self-confidence and reduce anxiety levels (Zhang et al., 2024).

While previous studies have examined the general applications of AI in language learning, there is a need for more focused research on the specific role of ChatGPT in EFL contexts (Alshumaimeri & Alshememry, 2024; Xiong, 2024). The present study aims to address this gap by exploring the experience and perceptions of students at the University of Hail in Saudi Arabia after utilizing ChatGPT in their language learning journeys. This study examines both the positive and negative aspects of using ChatGPT in an attempt to offer useful information to TESOL instructors, administrators, and curriculum developers.

The findings of this study have the potential to inform best practices for integrating AI technologies like ChatGPT into EFL programs and teaching methodologies. As the demand for effective and innovative language learning and teaching approaches continues to grow, understanding the impact of AI-driven tools becomes increasingly important for shaping the future of English language education (Edmett et al., 2023; Moybeka, 2023). This is particularly relevant in Saudi Arabia, where recent educational reforms (e.g., Saudi Vision 2030) have emphasized the importance of the importance of English language skills and the integration of technology in education (Al-Shehri, 2020). This research study contributes to the ongoing discussion about the role of AI in TESOL and offers practical implications for using these technologies to enhance language learning outcomes.

The remainder of this article is structured as follows: First, the literature review section presents the current state of research on the applications of ChatGPT in EFL education. The methodology section then details the research design, including information about the participants, data collection procedures, and the thematic analysis approach used in data analysis. Following this, the results and discussion section presents the key findings of the study and critically analyzes them considering existing research and the Saudi Arabian context. Finally, the conclusion summarizes the main insights and discusses the implications for EFL teaching and learning in Saudi Arabia and beyond, addresses the limitations of the study, and suggests directions for future research.

Literature Review

The integration of AI technologies in EFL settings has been a subject of growing interest among researchers and practitioners, mostly due to the advanced capabilities of these tools in enhancing instructional practices (Hastomo, 2024). The potential of AI technologies, specifically ChatGPT, to improve language learning outcomes and personalised learning has been investigated in recent studies. (e.g., Barrot, 2024; Han, 2024; Li et al., 2024; Pack & Maloney, 2023). A review of the relevant literature indicates that generative AI tools have shown considerable promise in providing language practice opportunities (Meniado, 2023), improving language skills (Li et al., 2024), and offering personalized learning experiences (Limo et al., 2023).

Research on the use of ChatGPT in EFL classrooms has revealed both opportunities and challenges. A study conducted at Tishk International University in Iraq demonstrated significant improvements in

grammar learning when ChatGPT was integrated into EFL classes (Kucuk, 2024). The experimental group's success rate was three times more than that of the control group, suggesting that ChatGPT could help with grammar learning. However, this study was limited to teaching grammar and did not explore other language skills and systems.

The impact of ChatGPT on student engagement and teaching efficacy has also been studied in the relevant literature. Findings suggest that ChatGPT positively influences both constructs and creates a highly engaging and personalized learning environment (Ghimire et al., 2024). Nevertheless, there are concerns about over-reliance on AI technologies, cultural and contextual misalignments perpetuated by these tools, and potential impacts on creativity and critical thinking (Hieu & Thao, 2024). In a similar vein, a recent review (Kasneci et al., 2023) argued that large language models like ChatGPT can offer considerable benefits by enhancing immersive learning experiences, improving natural language interaction, and facilitating the integration of diverse digital applications, while also listing several significant challenges linked to their use, including copyright issues, bias, overreliance, privacy, and computational costs. These concerns highlight the need for a balanced approach in integrating AI in language education.

Earlier research also indicated that the benefits offered by generative AI tools like ChatGPT may not be the same for all learners. For instance, a recent study (Wang et al., 2023) investigated how students of different learning styles interacted with an AI coach for language learning and identified key factors influencing their success. The results indicated that not all students benefitted equally from AI-supported learning. Students who actively engaged with the AI coach and adopted a deep approach to learning, which was characterized by critical thinking and reflection, achieved higher performance and experienced greater satisfaction. In contrast, those who passively followed the AI coach's instructions and focused on rote memorization struggled to integrate new knowledge and performed poorly.

The use of ChatGPT for academic studies, including in EFL education, has led to significant ethical debates. A key concern is the potential for academic dishonesty, with some arguing that using AI-generated content in academic writing constitutes a form of plagiarism, especially when authors do not acknowledge the AI tool for its contributions with proper citation (Jarrah et al., 2023). Another critical ethical challenge is the potential for AI to convey and present existing biases. As AI systems are trained on massive datasets of human-generated content that may contain societal biases, these biases can be reflected in the AI-generated content (Ray, 2023). The issue of bias in AI-generated content is particularly noteworthy in the Saudi context, where cultural sensitivities and linguistic nuances may not be sufficiently represented in ChatGPT's training data (Urman & Makhortykh, . Privacy concerns also feature commonly in the ethical discourse surrounding AI in education. The use of AI tools often involves collecting and processing considerable amounts of students' data, which raises questions about data security and student privacy rights. These concerns are crucial for Saudi institutions where data protection regulations and cultural attitudes toward privacy differ from other contexts (Alzahrani, 2024).

Faculty perspectives on using ChatGPT in EFL classrooms reveal mixed opinions. While some professors recognize the benefits in terms of materials, resources, and enhanced time management, others express concerns about plagiarism and reduced student effort (Elsaadany, 2024). Another study that investigated into the way EFL faculty members felt about ChatGPT's efficacy in supporting student learning (Mohamed, 2023) also showed mixed feelings among professors. Although some thought ChatGPT was a useful tool for giving prompt and precise answers, others were worried that it could hinder critical thinking and reinforce biases. This divide in opinion underscores the importance of developing guidelines for effectively integrating AI tools like ChatGPT, "robust regulatory frameworks are needed that address ethical, legal and privacy issues associated in AI" (Romero, 2023, p. 7). Addressing developing policies to encourage the appropriate use of generative AI technologies by educators and students is essential for fostering ethical and innovative learning environments. Alshammri (2024) found a similar divide among Saudi students. While many appreciated ChatGPT's assistance with content structuring, feedback, and personalized support, others expressed concerns about potential academic dishonesty, overreliance on the tool, and doubts about the accuracy of AI-generated content. This divide in opinion among both teachers and learners reflects the multifaceted nature of AI integration in EFL education, where perceived benefits are often counterbalanced by ethical concerns.

Despite the growing body of research only two years after the release of ChatGPT, there are notable gaps in the current literature. Most studies have focused on specific aspects of language learning, such as grammar or writing, without providing a comprehensive view of ChatGPT's impact across all language

skills. In addition, the long-term impacts of ChatGPT on language learning and learner autonomy have not been thoroughly studied. The ethical implications and potential biases in AI-generated content for language learning also require further investigation, particularly in diverse cultural contexts like Saudi Arabia.

The present study aims to address these gaps by exploring the holistic impact of ChatGPT of EFL teaching-learning at the University of Hail. By exploring students' experiences across various language skills and investigating both benefits and challenges, this research seeks to provide a more comprehensive understanding of ChatGPT's role in EFL education. Furthermore, the study will contribute to the ongoing discussion about best practices for integrating AI tools in language teaching and address the critical need for practical guidelines and ethical considerations in their use, with a particular focus on the unique cultural and educational context of Saudi Arabia.

Methodology

This study adopted a qualitative research approach with a case study design to explore the role of ChatGPT on EFL learning and teaching at the University of Hail. The qualitative methodology was chosen for its ability to provide rich, in-depth insight (Creswell & Poth, 2024) into the complex and multifaceted experiences of students using AI technologies for language learning. This approach allows for the exploration of nuanced perspectives, attitudes, and behaviours that may not be easily captured through quantitative methods (Allan, 2020).

The case study design was specifically selected for its ability to provide an in-depth and contextualized understanding of a phenomenon within its real setting (Yin, 2014). This approach is particularly well-suited for studying the integration of innovative technologies like ChatGPT in EFL education. Firstly, it allows for a holistic understanding of the complex interactions among technology, learners, and the educational environment. In addition, case studies are ideal for exploring why and how questions (Yin, 2014), which aligns with the aim of this study to explore how students use ChatGPT and why they perceive it as beneficial or challenging. By employing a case study design within a qualitative inquiry approach and focusing on a specific educational context, this research study aims to uncover detailed narratives and contextual characteristics that construct learners' perceptions of the benefits and challenges associated with the use of ChatGPT in EFL learning.

While this case study focuses on the University of Hail, the findings from this research can be transferred to other EFL learning contexts, particularly those with similar cultural, technological, and educational characteristics. By providing detailed accounts of the Saudi EFL context, the specific characteristics of the University of Hail, and the participants' backgrounds, this study enables readers to evaluate the similarity of their contexts to the one studied, which allows for informed judgments about the applicability of the findings to other settings. Furthermore, the insights gained from this study can serve as a foundation for developing frameworks that can be tested and refined in diverse EFL contexts and contribute to a broader understanding of AI integration in language education.

Participants

The participants in this study consisted of six female undergraduate students enrolled in the English program at the University of Hail. Each student was interviewed individually, and in addition, four focus groups were conducted, each comprising four students. These students were selected based on their voluntary and informal use of ChatGPT for their English language learning. It is important to note that the use of ChatGPT was not a formal requirement or initiative from the university but rather a personal choice made by the students to enhance their learning experience. All participants were using the free version of ChatGPT, which is accessible through email registration only, at the time of data collection, ensuring a common baseline among the group.

The selection of participants was conducted through purposeful sampling based on the initial author's observations of classrooms and frequent interactions with students as their professor. This approach allowed for the identification of students who had been actively and consistently using ChatGPT in their English language studies. Before they participated in the study, all selected students were asked to sign informed consent forms to ensure their voluntary participation and understanding of the research process.

Data Collection

Data for this study were collected through a combination of six semi-structured individual interviews and four focus group discussions with 4 students in each. Collecting data through multiple sources allowed for both in-depth individual insights and collective insights that emerged from group interactions (Baillie, 2019). All interviews were audio-recorded to ensure accurate data capture and to facilitate thorough analysis.

All interviews were conducted in Arabic, the participants' native language, to encourage free, nuanced, and extensive expression of the participants' experiences and opinions on the use of ChatGPT for learning English, which is also supported by the relevant literature indicating that using participants' first language in qualitative studies can lead to richer and more authentic data (Temple & Young, 2004). Subsequently, the interviews were translated into English for analysis and reporting purposes. To ensure the accuracy and confirmability of the translated data, the translations were reviewed by experts in the EFL field, a practice recommended for cross-language qualitative research (Squires, 2009).

Ethical approval was obtained from the University of Hail (ethics approval number: H-2024-431) prior to data collection, to ensure compliance with the institutional research standards and protect participants' rights and well-being.

Data Analysis

The study employed thematic analysis in line with the six-phase approach developed by Braun and Clarke (2006). This method was selected due to its adaptability and efficiency in finding, analysing, and presenting patterns in qualitative data. The use of thematic analysis in this study allowed for a systematic yet flexible approach to understanding the complex experiences of students using AI tools in language learning (Nowell et al., 2017)

Through this rigorous analytical process, four main themes were generated from the data. These themes (Improving Language Skills, Enhancing Self-Learning and Personal Interaction, Developing Research Skills through Artificial Intelligence, and Fostering Curiosity and Knowledge among Students) cover the key findings regarding the role of ChatGPT in EFL teaching-learning at the University of Hail. The six phases of analysis included:

1. Familiarization with the information.
2. Producing initial codes.
3. Looking for recurring themes.
4. Analysing themes.
5. Finding and naming themes.
6. Producing the report.

Results and Discussion

Most students in individual interviews and focus groups indicated explicitly and implicitly that using AI tools contributed to their learning of EFL. Thematic analysis of the data revealed four themes that indicated enhanced learning experiences associated with ChatGPT use. The themes and some examples that indicate the role of ChatGPT in EFL learning are created by the author and presented in Table 1.

Table 1.
The main themes and coded of excerpts samples

Themes	Total number of coded excerpts	Samples of the coded excerpts
Improving Language Skills	22	Learning to read in English feels easier when I use chat GPT. I always ask it to give examples of reading passages, and I spend most of my free time finding and reading extra materials (Entithar).
Enhancing Self-Learning and Personal Interaction	19	One day, I did not understand a specific topic in English. I went to Chat GPT and asked it to explain the topic to me. It explained the topic thoroughly with supporting details and sources and it also presented some further interactive questions to ensure that I understood the topic clearly (Abeer).
Developing Research Skills through Artificial Intelligence	14	Sometimes when having difficulty doing my research tasks, I ask for help from Chat GPT. I ask it to suggest some effective keywords, evaluate resources critically and organise information methodically. It helps a lot with my research writing (Aishah)
Fostering Curiosity and Knowledge among Students	9	Chat GPT encouraged me to read further analytical readings on the assigned articles. As a result, I started to engage in literacy communities online. My interaction with those communities helped me discover exciting and new dimensions in their studies (Abeer)

Theme 1: Improving Language Skills

The findings showed that ChatGPT can help students improve their English language skills, especially reading and writing skills, by providing additional practice opportunities. Three female students mentioned that they use ChatGPT to generate and read texts in their areas of interest. For example, Abeer said she uses ChatGPT to quickly find additional resources to improve her understanding of the study material. She added that this provides a faster answer to some questions she has compared to the conventional strategies she and her friends had been using before starting to use ChatGPT. In a similar vein, Aishah stated the following to demonstrate how ChatGPT changed her reading practices: "ChatGPT has changed the way I interact with texts. Thanks to it, I am now able to read and understand texts more deeply and quickly, which has significantly enhanced my reading skills." Additionally, one also mentioned during a focus group interview that she uses ChatGPT like a tutor by asking it to correct texts just like a teacher would:

ChatGPT has helped me correct grammatical and spelling mistakes, improve my writing style, and make my writing clearer and more professional. All I need to do is finish writing a text, paste it into ChatGPT, and ask it to comment on and critique my writing. It shows me the mistakes, explains the corrections, and suggests suitable alternatives (FG4).

Two students mentioned that they use ChatGPT to enhance their speaking skills. One stated that she looks up the pronunciation of words in ChatGPT and uses the audio feature on the mobile app to learn the correct pronunciation. Another mentioned that she uses ChatGPT to find programs that help her learn and practice pronunciation in English:

The sites I used to practice correct word pronunciation were recommended by ChatGPT. These days, I use the Oxford Learner's Dictionaries, Merriam-Webster Dictionary, and Cambridge Dictionary. When I asked ChatGPT about websites that provide pronunciations in different accents, it suggested these excellent sites, and I rely on them for accurate pronunciation (Entithar).

Moreover, Amani said she talks with ChatGPT as if it were a real person. She uses it as a written and spoken conversation tool instead of speaking with people she cannot find to practice the language with. Abeer supported this by stating that ChatGPT has boosted her confidence in conversations. She spends a lot of time chatting with ChatGPT, which has enhanced her practice and communication skills and helped her speak English fluently without hesitation.

Similar remarks were also made in one of the focus group interviews:

ChatGPT is an informal and safe environment that allows us to practice the language without fear of making mistakes. Unlike with a teacher, when we need to ask a teacher a question, it must be well-structured and correctly phrased, but with ChatGPT, the phrasing of the question doesn't matter as much. It understands and responds even if there are mistakes in the question. Sometimes it asks if you mean this or that, and we really like that (FG1).

The use of ChatGPT for speaking practice reflects the Interaction Hypothesis, which posits that language acquisition occurs through meaningful interaction (Long, 1981). By simulating conversations, ChatGPT provides a low-stakes environment for students to engage in language production, which helps lower their affective filter and increase their willingness to communicate.

Lastly, two students mentioned that they use ChatGPT to expand their vocabulary. They said they can request definitions of new words to understand them correctly and sometimes ask for examples of new words and their use in sentences to learn how to use them correctly. Athwa mentioned she uses ChatGPT to enhance spelling as a spell checker. She said that in the past, she paid for and used Grammarly, but now it's easier with ChatGPT. She pastes the written text and asks ChatGPT to check if it is correct. Four students mentioned that ChatGPT has helped enhance their grammar skills through grammar training. They said they can ask questions about English grammar and receive detailed explanations:

Each of us faces difficulty using different tenses in English. I used ChatGPT to ask questions about grammar and practice exercises. I noticed a significant improvement in my understanding of tenses compared to before, which has increased my motivation and commitment to practising the language regularly (Amal).

Theme 2: Enhancing Self-Learning and Personal Interaction

The analysis of the data also revealed that ChatGPT encourages participants' self-learning endeavours by offering personal interaction opportunities. Four students mentioned that they use ChatGPT frequently outside of traditional class times, which has helped them identify their learning needs and start working towards meeting them. They also noted that ChatGPT has enhanced their self-learning, as they no longer need help from the teacher for language learning outside of regular class hours and have become more independent and proactive in their studies:

ChatGPT has become my personal tutor. I can ask it any question about anything I don't understand. It explains things in detail, and if I write "I don't understand that" it provides a more precise explanation until I get it (Athwa).

Similarly, one mentioned that ChatGPT provides individual support and can adapt to students' needs, helping them address their specific weaknesses. Four students in one of the focus groups noted that ChatGPT has made learning more enjoyable and motivating, increasing their engagement:

The games and educational activities that we can design and develop ChatGPT have considerably increased our motivation. I can design language games like puzzles and linguistic challenges and play them with my classmates, making learning more fun for us. We really enjoy using ChatGPT to learn English (FG3).

In a similar comment, Amani mentioned that her interaction with ChatGPT made her more competent as a self-directed learner:

The interactive nature of ChatGPT can make learning more engaging and less intimidating than traditional methods. I have a great time sitting at home writing to ChatGPT, which responds, explains, and clarifies. My motivation to learn has truly increased, and I am trying to learn more about grammar and its uses.

Two students mentioned that ChatGPT has enhanced their self-learning by breaking down the fear and shyness of asking questions in class, as they can ask questions in a non-formal setting anytime and anywhere. One group of students noted that ChatGPT is suitable for all levels of learners because it can adapt its responses according to different levels. Regarding increased student engagement with ChatGPT, one student mentioned that she creates stories in English and then posts them to ChatGPT for review and correction. ChatGPT corrects and critiques the stories, highlighting their strengths and weaknesses. Two

students mentioned that they translate texts from their native language to English using ChatGPT without consulting the teacher, which enhances their understanding of the language quickly and easily.

Previously, I used Google Translate to translate some words and texts, but I didn't really understand them, or a large number of extremely basic linguistic errors were present. Sometimes it would write the same word but in Arabic letters. Now, with ChatGPT, translation is very enjoyable, easy, and clear, and I can also ask for more explanations when I am not sure (FG4).

Based on students' remarks, ChatGPT has also provided support for independent learning at their own pace and capabilities. One student mentioned that she spends a lot of time outside of class working with ChatGPT because she feels her educational level needs additional support in learning English as a foreign language, and she needs to develop it personally and flexibly according to her educational needs.

The participants' experiences in terms of self-learning and personal interaction strongly connect to the concept of learner autonomy in language education, where students take charge of their own learning process. The personalized support offered by ChatGPT aligns with Vygotsky's Zone of Proximal Development theory, which suggests offering scaffolding tailored to individual student needs so that learners can progress beyond their existing skills with support from a more knowledgeable other (Cai et al., 2024).

While ChatGPT has clearly enhanced English language learning experiences, students have encountered several challenges that need careful consideration. These difficulties primarily revolve around issues of accuracy and over-reliance on technology, potentially impacting the overall learning process and social aspects of education.

One significant concern raised by students is the occasional inaccuracy or incompleteness of information provided by ChatGPT. This issue was reported by three participants, who expressed difficulty in comprehending some of the AI-generated responses and explanations. Such instances often require additional support or clarification from external sources, as Athwa described: "Sometimes the information provided by ChatGPT is inaccurate or incomplete. What I do is to copy the information ChatGPT gives me and paste it into Google Search to verify it". This practice of cross-reference highlights the importance of critical thinking and information literacy skills when engaging with AI-generated content.

Another challenge that emerged from the study is the potential for over-reliance on technology. Students reported a growing dependence on ChatGPT, which may reduce opportunities for peer collaboration, idea exchange, and seeking help from human sources. One participant specifically noted that this dependence has led to a perceived decline in her social communication skills. The individual nature of interaction with ChatGPT, while beneficial for personalized learning, may reduce valuable face-to-face interactions and collaborative learning experiences that are crucial for language learning and social skill development.

Theme 3: Developing Research Skills through Artificial Intelligence

The data analysis also revealed that ChatGPT significantly enhanced participants' research abilities. Four students noted that ChatGPT is a useful tool that has developed their research skills through brainstorming. Amani said: "Whenever I am unsure about what topic to write about, I ask ChatGPT to brainstorm with me, elaborate on my ideas, and help me get started. Sometimes I get stuck and don't know how or where to begin". Three students mentioned that ChatGPT helped them search for information and provided quick and accurate answers, which improved their skills in gathering information on a specific topic they wanted to research. Additionally, one student mentioned that ChatGPT was successful in providing a mind map of a specific topic when gathering information about it. A group of students also noted another advantage of ChatGPT as it fostered their creativity, especially in cases where they were asked to choose the topic of the writing task themselves. They would ask ChatGPT about some topics, and it would provide several ideas from which the student could choose and complete the task:

If I am confused about choosing a topic to write a story or an article about, I go to ChatGPT and tell it my interests, such as friendship or daily routines, and it gives me several topics to choose from. I indeed find suitable options from its suggestions and quickly write about them to complete my tasks more efficiently (FG2).

The data from the students also indicated that ChatGPT is a successful tool for providing additional sources for research. Two students mentioned that the premium edition of ChatGPT helped them gather information from various sources, such as books, academic articles, databases, and reliable websites. Amal noted: "ChatGPT premium not only provides me with scientific sources for research but also allows me to check if these sources are reliable by verifying the accuracy and objectivity of the data".

ChatGPT also helped students organize and sequence their ideas in research writing. Two students stated that ChatGPT organizes their ideas logically, classifies them by importance, and helps in arranging them systematically to clarify the logical sequence. Two students also noted that ChatGPT assisted them in refining the content by reviewing texts and providing feedback on how to revise and correct them. One group of students mentioned that ChatGPT facilitated analytical writing practice. They stated that they request help in writing reports and articles by asking ChatGPT for reviews and critiques of these texts:

Sometimes I write articles or short reports on specific topics and then ask ChatGPT to review the text and provide feedback on how to improve the style, structure, or argument presented. I receive immediate comments on my language use, which enhances my correct use of language (FG1).

A positive contribution of using ChatGPT for students is its feature of providing immediate feedback. Two students mentioned that ChatGPT's effective immediate feedback feature helped them correct grammatical and linguistic errors promptly, which reduced their anxiety and increased their confidence by continuously learning from their mistakes when using ChatGPT for this purpose. ChatGPT also assisted students with time management skills. One student mentioned that they asked ChatGPT for advice on how to effectively organize the time when writing an essay or research paper, and it helped them allocate time and tasks in a clear and organized manner. In this theme, it was repeatedly mentioned by most students that ChatGPT enhanced their research skills by suggesting additional questions. When ChatGPT asks additional questions that might be important for improving research and deepening the understanding of the topic, it helps in elaborating on the subjects and broadening perspectives.

Theme 4: Fostering Curiosity and Knowledge among Students

Finally, the analysis revealed that ChatGPT enhanced students' curiosity in learning English. Three students indicated that asking open-ended questions to ChatGPT helps practice the language by exploring various aspects of a topic. They noted that open-ended questions are used to request an analysis of a particular topic, leading ChatGPT to provide detailed information that the student then researches further, which nurtures their curiosity. In this line, Abeer stated the following:

ChatGPT has given me a deeper desire and hunger to search for information. When it provides me with specific information, I don't just stop there; I search and search more for additional details. It has allowed me to delve deeper into learning English compared to traditional methods.

ChatGPT also helped stimulate active thinking among the participants. One student mentioned that she didn't just learn English as a language but also researched other topics, such as social or political issues, in English to extend her sociocultural knowledge from various angles. Two students mentioned that they became more competent at analysing different perspectives using ChatGPT. Aishah said: "I often ask ChatGPT to provide different viewpoints on a particular topic, and then I compile and compare those viewpoints, discussing and analysing the similarities and differences between them." Another student mentioned that when asking ChatGPT to correct grammatical and linguistic errors in her writing, she seeks to understand the reasons behind the corrections to improve her writing skills more broadly. Additionally, the students' data showed that ChatGPT enhanced curiosity through dynamic interaction. One student noted that ChatGPT encouraged discussions and learning more to obtain additional information. Amani said that ChatGPT stimulated her curiosity by presenting challenging questions and language problems in learning English. She mentioned: "When using ChatGPT, I challenge myself by responding to discussion questions it presents on a certain topic. It then responds with another question, and I answer that, and it continues in this way." Similarly, one student said that ChatGPT provides ongoing support and encouragement during interactions, similar to a teacher. It offers continuous motivational phrases, which gave her greater confidence in communicating with it.

Overall, the analysis showed that students' enhanced curiosity in learning which emerged as their interaction with ChatGPT encouraged them to explore various topics and perspectives resonates strongly

with incidental learning in language acquisition, where learners acquire language skills while engaging with content that interests them (Rodgers, 2015).

Discussion

This study explored the role of ChatGPT in EFL learning at the University of Hail and revealed both significant benefits and notable challenges. The results add to the growing body of research on AI integration in language learning and provide information that can guide TESOL practices and future studies.

The improvement of language skills emerged as a primary benefit of ChatGPT use, which aligns with earlier research that highlights AI's potential to enhance language learning outcomes (Barrot, 2024; Han, 2024). Particularly noteworthy is the tool's ability to support multiple language skills simultaneously. The students' experiences with ChatGPT for reading comprehension, writing feedback, and vocabulary expansion demonstrate its versatility in supporting diverse aspects of language acquisition, which addresses a gap identified in earlier research (e.g., Kucuk, 2024) that often focused on language skills or systems in isolation. Moreover, this multifaceted support aligns with the findings of Choi et al. (2024) and Huang et al. (2023), both of whom emphasized AI's capacity to offer personalized learning experiences across various language domains. In this context, educators should consider incorporating AI tools like ChatGPT into their teaching practices for providing additional practice opportunities and personalized feedback.

The theme of enhanced self-learning and personal interaction reflects AI's potential to foster learner autonomy, a crucial aspect often emphasized in TESOL literature (Kuddus, 2022; Zou, Reinders, et al., 2023). The students' reported increase in independence and proactive learning behaviours suggests that ChatGPT may serve as a catalyst for self-directed learning and address the need for more personalized and adaptive learning experiences in EFL contexts. However, this finding also raises questions about the optimal balance between AI-assisted learning and traditional classroom interactions, echoing concerns raised by Kasneci et al. (2023) about the potential over-reliance on technology in instructional settings. Therefore, while creating opportunities for the benefits of AI, it is crucial to maintain opportunities for peer collaboration and teacher-student interaction to ensure holistic language development. Curriculum design can play a critical role in ensuring this balance by offering guidance on how to effectively use AI tools for self-directed learning in order to empower students to take control of their language journey without over-relying on tools.

The development of research skills through AI interaction represents a novel finding that extends beyond typical language learning outcomes. This aspect of ChatGPT use aligns with broader educational goals of fostering critical thinking and information literacy skills, as emphasized by Wang et al. (2023). The tool's ability to assist with brainstorming, data gathering, and analytical writing suggests potential applications beyond language learning, possibly contributing to academic skills development across disciplines. Given these benefits, teaching materials should be designed to encourage students to critically evaluate AI-generated content to enhance critical thinking skills, language skills, and digital literacy skills at the same time.

The theme of fostering curiosity and knowledge among students highlights ChatGPT's emerging role in promoting deeper engagement with learning materials and broader academic topics. This finding resonates with the work of Muthmainnah et al. (2024) and Wei (2023), who emphasized the importance of AI in creating more engaging and motivating learning environments. However, it also underscores the need for careful integration of AI tools to ensure they complement rather than replace human-led instruction and peer interaction.

Despite these positive outcomes, the challenges identified in this study, particularly regarding information accuracy and potential over-reliance on AI, echo concerns also raised in previous research (e.g., Ghimire et al., 2024; Hieu & Thao, 2024). These findings highlight the critical need for developing comprehensive guidelines and ethical frameworks for AI use in EFL contexts, as suggested by Elsaadany (2024) and Mohamed (2023). Furthermore, the concerns about reduced social interaction and collaborative learning opportunities point to the importance of maintaining a balanced approach that integrates AI tools while preserving valuable face-to-face interactions in language learning environments. Teaching materials that include discussions on the ethical use of AI in academic contexts could also be valuable in addressing key issues such as plagiarism and over-reliance on technology.

Finally, the analysis showed that the benefits introduced under the four themes are interconnected in that they can reinforce each other. To illustrate, as students gain confidence in their language abilities through ChatGPT-assisted practice, they become more motivated to engage in independent learning activities (e.g., increased reading comprehension skills may encourage students to explore more complex materials autonomously). As students become more autonomous learners, they become better able to utilize ChatGPT for research purposes through its capabilities such as organizing ideas and analyzing different perspectives on a topic. Moreover, the development of research skills is closely linked to fostering curiosity. As students learn to use ChatGPT for brainstorming and information gathering, they naturally become more curious about various topics. This curiosity, in turn, drives them to further develop research skills and create a positive feedback loop of learning and exploration.

Conclusions

In conclusion, the current study adds to the ongoing debate over the function of generative AI tools in TESOL by offering a sophisticated perspective on the function of ChatGPT, the most popular generative AI tool, in EFL instruction. The findings of the present study are novel in several aspects, particularly in revealing the multifaceted role of ChatGPT in EFL learning. They showed that students obtained benefits not only in language skills development but also through the enhancement of autonomous learning, research skills, and curiosity among students. This holistic view of AI's role in language learning represents a significant contribution to the field of research in TESOL.

According to the results, even if ChatGPT has a lot to offer in terms of improving language proficiency and learner autonomy, integrating it into EFL programmes requires careful management to handle issues and ethical concerns. Future investigations ought to concentrate on identifying and developing best practices for AI integration in EFL, exploring long-term effects on language learning, and investigating strategies to mitigate potential negative impacts on social learning aspects. As AI tools continue to evolve, ongoing assessment and adaptation of their use in language education will be crucial to ensure it enhances rather than diminishes the quality of EFL learning and teaching and students' relevant experiences. In addition, future research should aim to present the perspectives of multiple stakeholders (i.e., students, teachers, educational leaders) together and in relation to each other, which is necessary for developing a comprehensive and holistic view of the challenges and benefits associated with AI use in instructional settings for language learning. In a similar vein, comparative studies across different cultural and educational contexts could provide a more comprehensive understanding of how AI tools can be effectively integrated into diverse EFL settings. Lastly, longitudinal studies that adopt mixed-methods approaches could be helpful in ensuring depth and breadth in evaluating the long-term role of AI integration in language learning and learner autonomy.

The findings of this study have significant implications for various stakeholders in the TESOL field. For educators, the findings underscore the need to develop new pedagogical approaches that effectively integrate AI tools like ChatGPT into their teaching practices while maintaining a balance with conventional approaches. This may involve redesigning teaching programs to incorporate AI-enhanced learning activities and developing strategies to benefit from ChatGPT's strengths in personalized feedback and generating practice activities. For administrators and policymakers, the study emphasises how crucial it is to create precise regulations and ethical guidelines for the use of AI in language instruction, considering concerns like data privacy, academic integrity, and fair access. Additionally, there is a need for professional development programs to equip teachers with the skills necessary to effectively utilize and critically evaluate AI tools in their classrooms. For students, the findings emphasize the potential of AI as a powerful learning assistant, but also the importance of developing critical thinking skills to navigate and verify AI-generated information.

A key limitation of this study is the gender-specific nature of the participant group, which consisted solely of female students. This limitation arose from national regulations that restricted the female researcher's ability to interact with male students due to the gender segregation policy in the research setting. Consequently, the findings may not fully represent the experiences and perspectives of male EFL learners. This gender-specific data collection could overlook potential differences in AI usage, learning preferences, and challenges that may exist between male and female students in EFL contexts. Additionally, the study's focus on a single institution, the University of Hail, may limit the relevance of findings to other educational settings with different cultural, technological, and pedagogical contexts. In this regard, future studies should

try to incorporate a more varied participant pool from different institutions and genders in order to give a deeper understanding of ChatGPT's impact on EFL instruction.

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Innovation challenges and benefits in high-tech start-ups: A quantitative analysis of university student entrepreneurs in Romania

Provocările și beneficiile inovării în afacerile noi înalt tehnologizate: analiză cantitativă în rândul studenților antreprenori din România

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Abstract

This article analyses the entrepreneurial students' attitudes towards innovations developed in high-tech industries, with the aim of identifying the benefits brought to the entrepreneurial ecosystem. It also identifies the main challenges that entrepreneurial students are faced with when developing innovations in high-tech start-ups. The empirical study used the quantitative methodology with the hypotheses tested with the independence tests for a sample of 98 students (n=98) from Romanian universities. The results confirm that students would start-up a new business in the activity fields connected to their studies whereas an association between their start-up idea and innovation in high-tech businesses was identified, with the need of proper managerial education. Hence, our findings demonstrate that there are variances between genders with regard to the challenges of implementing innovations in high-tech start-ups. They also show that the start-up ideas, according to their innovation type (application, platform or device with software), bring different benefits to entrepreneurs, within the three business fields they belong to: Earth problem-solving, business engineering and human and animal welfare. In this respect, our conclusions have significant implications for both the literature and practice of entrepreneurship.

Keywords: Business creation, innovation, high-tech industry, Romanian entrepreneurs, students.

Rezumat

Acest articol analizează atitudinile studenților antreprenori față de inovațiile dezvoltate în industriile înalt tehnologice, cu scopul de a identifica beneficiile aduse ecosistemului antreprenorial. De asemenea, lucrarea identifică principalele provocări cu care se confruntă studenții antreprenori atunci când dezvoltă inovații în afacerile noi din industriile înalt tehnologice. Studiul empiric a utilizat metodologia cantitativă, ipotezele fiind testate cu teste de independență pentru un eșantion de 98 de studenți (n=98) din universitățile din România. Rezultatele confirmă faptul că studenții ar înființa o nouă afacere în domeniile de activitate legate de studiile lor, fiind identificată o asociere între ideea de start-up și inovarea în afacerile din industriile înalt tehnologice și necesitatea unei educații manageriale adecvate. Prin urmare, rezultatele noastre demonstrează că există diferențe semnificative între genuri în ceea ce privește provocările implementării inovațiilor în start-up-urile înalt tehnologice. De asemenea, arată că ideile de afaceri noi, în funcție de tipul lor de inovație (aplicație, platformă sau dispozitiv cu software), aduc diferite beneficii antreprenorilor, în cadrul celor trei domenii de afaceri din care fac parte: soluționarea problemelor Pământului, ingineria afacerilor și bunăstarea oamenilor și animalelor. În acest sens, concluziile noastre au implicații semnificative din punct de vedere teoretic, dar și pentru dezvoltarea practicii în antreprenariat.

Cuvinte cheie: Crearea afacerilor, inovație, industrie înalt tehnologizată, antreprenori români, studenți.

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Introduction

Business survival is linked to the process of innovation (Goffin & Mitchell, 2016). Over the years, technological innovation has attracted major interest from academia, business, industry, entrepreneurs and policy makers who have started to put their efforts with the aim of developing the entrepreneurial ecosystem at the level needed to integrate technological innovations.

Recent studies (Solaimani et al., 2019) have led researchers to reconsider the main drivers of innovation, showing that managing innovation requires a wide variety of qualities and capabilities surpassing Research and Development expenditure, while the size of R&D investment would not be the only determinant for creating value with innovation (Cooper & Edgett, 2008). For this reason, research carried on innovation do not focus anymore exclusively on the technological aspects of innovation; managerial innovation has been attracting considerable academic interest (Nieves, 2016; Omri, 2020) as well. The introduction of new management practices (like Agile frameworks for project management, LEAN manufacturing methodologies, Blue Ocean strategic approach or methods of design thinking) helps entrepreneurs both to improve performance and to develop technological innovation capabilities (Camisón & Villar-López, 2014). Such trends have led to the start-up and rapid growth in number and size of medium-high and high-tech businesses, whose definition relies on their continuous engagement in scientific research and successful commercialization of their technological innovation achievements domain (Jian & Hongxia, 2023).

Several scholars have already demonstrated the positive effects of innovation on business performance and competitiveness, underlining how important innovation is in promoting a sustainable society (Bekhet and Abdul Latif, 2018; Omri, 2020). Despite this strong attention given to innovation in meeting sustainability goals, there are some gaps in the existing literature. Lately, researching innovation outside the technological domain has become a real need (Damanpour & Aravind, 2012; Damanpour, 2014). However, new research focusing on the challenges of managing innovation from the very moment of business creation is underdeveloped. Controversely, there is a lack of data on the entrepreneurial approaches to innovation management with regard to the developing countries and emerging economies like Romania. By using innovation management as a theoretical framework, this paper examines entrepreneurial students' attitudes to implementing innovations in new high tech businesses. University students are the youth of any country and its future (Singh & Alwaqaa, 2023) and their role as subjects of research is crucial for sketching national and regional programs. It also underlines the challenges to overcome and the benefits foreseen with the help of quantitative data. The authors have formulated the following general research objectives, driven by the identified need to deal with the topic formulated in the title:

- (O1) Analysing entrepreneurial students' attitudes towards innovations in high-tech industries and development within innovative start-ups;
- (O2) Identifying the entrepreneurial students' approach about the challenges they might be faced with when managing innovation in high-tech start-ups;
- (O3) Evaluating the main benefits of innovation within high-tech start-ups;

The significance of the results resides in the fact that students perceive differently the challenges of the new businesses in high-tech fields: men and women are alike willing to take up innovations in start-ups, but they behave differently, women being more risk-aware, when concerned with legal issues and standards, talent development and retention, and organisational culture. Hence, the entrepreneurial path of Romanian students seems to be very academic centred: they would start up a business in the fields they study, not looking for business opportunities, meeting their passions and hobbies, or finding other motivations.

In this respect, according to the herein before mentioned objectives, the paper presents the five sections rigorously connected one to another: the background of the topic is given in the introduction; the literature review, split into two sub-sections, follows and lays the bases of the study on the challenges met by student entrepreneurs in high-tech industries; next, the research method, hypotheses and the statistical analysis of results are presented in detail. The outcomes of the study are discussed in relation to the previous research. In the end, conclusions are highlighted as well as the future impact of the paper in terms of theoretical and managerial approaches within the Romanian entrepreneurial ecosystem.

Theoretical Framework

Innovation within the context of technological entrepreneurship in emerging countries

Technological entrepreneurship refers to the ability of the entrepreneur to apply and manage technological innovations so as to develop new products and services or improve processes as well as to enter new markets (Kuratko, 2005). Thus, the entrepreneurial vision is focused on economic growth based on innovation, which finds itself at the crossroads between exploiting opportunities in technology and meeting customers' needs and developing markets.

As entrepreneurs step into the realm of technology-based entrepreneurship, they realize that innovation is a way to thrive within the technological landscape, a dynamic and competitive environment. In our view, technological innovation is of two types: product/service innovation or process innovation (management and marketing). Product innovation refers to the introduction to the market of a new good or service or of an improved version of an existing good or service, differing from the firm's or the competitors' previous goods or services; process innovation means the introduction of new or significantly improved methods of production, distribution, delivery or logistics systems within the enterprise (OECD, 2005). Hence, innovating a business process implies a new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been introduced into use within the firm (OECD, 2018). Product and process innovations, also encompassed and known as technological innovations (OECD, 2005), are considered to be the core element of firm competitiveness (Walker et al., 2015).

Most previous research has analysed the relationship between technological innovation and the economic performance of companies (a major benefit for developing innovation in a start-up), considering innovation as a mainly technology-based phenomenon (Armbruster et al., 2008; Battisti & Stoneman, 2010; Evangelista & Vezzani, 2010; Damanpour, 2014), emphasizing aspects such as intellectual property (Fischer et al., 2020), openness to innovation (Chen & Liu, 2018), innovation ecosystems (Bandera & Thomas, 2018) and R&D (Ferraris et al., 2019). This makes us conclude that technological innovation has always preserved its role as an essential tool for achieving sustainable development. Some authors have shown that the three pillars of sustainable development (economic, socioeconomic and environmental) rely on technological innovations, but mainly in rich countries. In middle-income countries, it negatively influences the economic and environmental dimensions to some extent whereas it has no impact in low-income countries (Omri, 2020). Hence, our research helps understand better the entrepreneurial environment to develop innovation in countries like Romania, an upper-middle-income country.

As one of the fastest-growing economies in Europe, Romania has attracted international investors and multinationals, especially in the IT sector. The growth of digitization, artificial intelligence (AI) and software development combined with the fact that the Romanian economy benefits from a relatively low cost of labor compared to Western Europe (Cristescu et al., 2024), makes Romania an attractive location for high-tech startups. The government has implemented policies to support innovation (Spitzer, 2020), such as tax incentives for research and development (R&D) activities, as well as special programs to encourage the creation of technology startups. Moreover, the innovative capability of businesses started being measured, defined as a company's ability to develop new products and/or markets by aligning strategic orientation with innovative behaviours and processes (Guan & Ma, 2003; Wang & Ahmed, 2004; Wang & Ahmed, 2007). Ramanathan et al. (2018) measured the innovativeness/innovative capability of firms by analysing the impact of newly developed products and processes on financial performance.

In Romania, this context presents vast opportunities for technology entrepreneurs. The presence of technology hubs in cities such as Bucharest and Cluj-Napoca allowed local startups to attract global investors', potential customers' and partners' attention. Romania has a strong pool of technical talent, the universities having a very large number of engineering and IT students. Romanian young entrepreneurs are often described as resourceful, adaptable, and capable of overcoming significant obstacles (Ion et al., 2023). Universities' efforts to support innovation and digitization, in parallel with the creation of business pre-acceleration programs, have made technology entrepreneurship among students increasingly promising, and within the entrepreneurial ecosystem, university-based startups are on the rise.

Student entrepreneurship amid the Romanian innovative business ecosystem

Entrepreneurial students are agents of change, able to identify opportunities where others cannot see them (Cruzata-Martínez et al., 2021). Technological entrepreneurship comes with a series of challenges which new entrants in the world of entrepreneurship, irrespective of how much risk takers they are, may face with. First, there is innovation itself driven by the entrepreneurs' desire and motivation to innovate. Technological development tries to disrupt traditional industries, helps emerge new technologies and implements advanced products and services to transform the society. Recent literature approaches technological innovation capabilities through new dimensions such as human resource management, innovation culture, organizational learning and entrepreneurship (Zhu & Cheung, 2017). In our view, these are pillars for growing start-ups in high tech industries and lay the basis of the research objectives herein before mentioned.

Secondly, there is the belonging to the business ecosystem which may facilitate or create opportunities to new entrants by providing access to resources (including capital), investors, (interdisciplinary) knowledge, cooperators, markets and by creating the proper strategies to cope with possible barriers. Some papers underline organizational innovation which refers to the elements of innovation used in administrative and managerial processes, within the advance or implementation of cutting-edge technologies, development of new products and processes, and continuous creative pursuit to meet customer needs (Soto-Acosta et al., 2016; Prange & Pinho, 2017).

Thirdly, technological entrepreneurs meet world objectives such as digitalization, globalization and sustainability which will contribute to the reduction of the processes of differentiation of the development of regional economic systems (Lukianova et al., 2022), addressing societal challenges, ethical issues and supporting the development of smart environments. Hence, there is a need to undertake research on student entrepreneurs to understand their innovative thinking and to analyse their role as technological entrepreneurs. In a dynamic technological environment, where change is continuously occurring, startups made by students play an increasingly important role in driving innovation. They are fuelling technological advances, redefining traditional business paradigms, as speciality literature stated, disrupting traditional industries and shaping the future of businesses (Ahmad et al., 2024). Amid their transformative path, there are modern innovation management methods as the Agile ones, which have become a complex but indispensable facet that distinguishes successful high-tech startups from the rest (Onwu, 2021; Crnogaj & Rus, 2023, Khuan et al., 2023). In the context of technologic start-ups, innovation is not simply about the development of innovative products or services, but it also involves the dynamic interplay of organizational culture in order to survive in a highly competitive market, and thrive amidst uncertainty (Gao & McDonald, 2022; Daymond et al., 2023, Moşteanu, 2023). In high-tech start-ups, an innovative culture influences everything from problem-solving approaches, like for example design thinking, to product/service development and to market scalability.

Moreover, in emerging countries, featuring high growth potential and willingness to solve societal issues, entrepreneurial students are the needed players for developing and implementing innovation and starting-up new businesses. Fields like fintech, agritech, healthtech, edtech and cleantech are dynamic and bring many opportunities in emerging countries, so they are appealing to new entrepreneurs, of which students make an important sub-category. Students are implied in solving community challenges and they benefit from the outcomes that technological entrepreneurship brings to societies like Romania, as the creation of jobs, the acceleration of economic growth and the absorption of tech-based innovations. On the other hand, students may face major challenges such as: lack of infrastructure and capital, reluctance to uncertain markets and technological solutions, restrictions given the unclearly defined and restrictive regulations and unpredictable tax regulations, shortage of talent and specialized skills to develop teams and deficiency of managerial skills to scale up the business. But, with government support and global investors' consideration, innovation and entrepreneurship are fostered and the business ecosystem is blossoming, making emerging countries like Romania with 33.4 as Global Innovation Index (WIPO, 2024), number 48 in the world rank, a ground for fruitful partnerships, talent pools, accelerator hubs and funding networking.

Under such circumstances, this research focuses on university students to investigate the challenges and benefits perceived when becoming an entrepreneur in the high technology fields in Romania. The topic is significant as it highlights major trends in Romanian entrepreneurship, outlining the benefits of innovation in high-tech start-ups which may be analysed for other countries too, by simply replicating the instrument of research. Furthermore, apart from the theoretical relevance herein above mentioned, the study is

important for socio-economic reasons: skill development in entrepreneurship adds value to the human resources trained by universities which, based on real data, can design better study programs, support innovation within incubators and dynamically increase the entrepreneurial talent. Innovation is generated by organisations, including universities, within organisational processes and practices with the help of product development projects (Hansen et al., 2000; Schulze & Hoegl, 2006), public hackathons (Almirall et al., 2014; Irani, 2015), or collaborative programs between industry and science (Fontana et al., 2006; Perkmann et al., 2013); sufficient diversity generates novelty while fostering communication between domains to enable implementation (Caccamo et al., 2023). To conclude, in Romania, universities are major drivers of both innovation and entrepreneurship.

Methodology

This quantitative study is a piece of empiric research focused on assessing the challenges of innovation for students matriculated with Romanian universities who intend to start up a high-tech business. Given its scope, the quantitative research methodology gives the possibility to identify the intensity of student entrepreneurship as well as its upward or downward tendencies (Bienkowska & Sikorski, 2024). According to the general objectives hereinbefore expressed, the following hypotheses were formulated:

- H1. There is significant association between study programme and business fields challenging for starting up a high-tech business.
- H2. There is significant association between start-up idea and innovation in high-tech businesses.
- H3. There are significant differences between genders with regard to the challenges of implementing innovations in high-tech start-ups.
- H4. There is a significant association between the business field and the managerial methods and instruments to be used by high tech start-ups.
- H5. There is significant association between the business fields and the benefits brought to start-ups by innovation.

The researched population consists of students matriculated with Romanian universities at all the three levels of study: Bachelor, Master, and PhD and post-doc interested in becoming a tech entrepreneur. Their number is impossible to calculate or estimate, so we will include all the university students, which counted 15.51% of the total population matriculated in the Romanian educational system in 2022. Table 1 presents the descriptive statistics of the studied population in the last 5 years, which has slightly started to decrease in 2021 and continued this trend in 2022.

Table 1.
Descriptive statistics of the studied population

Total number of students matriculated in Romania	2018	2019	2020	2021	2022
At all levels of education	3,547,301	3,526,189	3,494,604	3,495,791	3,472,784
In universities, of which	533,749	543,299	560,490	554,007	538,720
Female	290,865	296,622	308,222	307,677	298,137
Male	242,884	246,677	252,268	246,330	240,583

Source: School Population, 2024

For collecting the primary data, we designed an online questionnaire. It comprised two parts: one collecting the demographic data of the respondents (gender, age, residence and programme of study) and one centred on entrepreneurial students' attitudes and opinions about innovation in high-tech start-ups, the challenges and the benefits. The latter consisted of 8 directed questions, 2 semi-directed questions and 1 open question.

The questionnaire was spread during the 2024 edition of one of the most important national hackathons organized for students by Romanian universities. A national tech hackathon offers the students the necessary opportunity to provide business ideas whereas implementing technology. Apart from the drive that a national hackathon gives to the entrepreneurial ecosystem, it offers researchers the possibility to identify the health of the environment created by entrepreneurial students, insight in the national and local actors' interest. Thus, we used non-probability sampling based on convenience and availability. Because the participants were included at researchers' will, our sample was a controlled one which generated a mini-

sample of the population. Although considered non-representative of the general population, recent research seems to give it more importance for various fields, as for example health (Turban et al., 2023).

Results and Discussion

The participation in the study was not mandatory for the students partaking to the hackathon. But those who agreed to answer the online questionnaire gave their written informed consent to the researchers who were present at the hackathon. We obtained 98 reliable answers ($n=98$) which were analysed by using IBM SPSS. We performed the chi-square goodness-of-fit test to check the sample reliability (no data entry errors were identified) as we had assumed there was no preference of entrepreneurship between genders. As $\chi^2(1)=36.735$ and $p=0.000$, the statistically significant association showed that, due to their presence at an entrepreneurship event and availability to take part in the study, student men would start up a business in high-tech businesses more than student women would.

The characteristics of our sample ($n=98$) are:

- In terms of gender, 19.4% of respondents were female and 80.6% were male;
- In terms of age, all of them were below 29 years old (young, according to the European Union's policies and programmes);
- In terms of residence, 16.3% of respondents live in rural areas and 83.7% in urban areas;
- In terms of field of study, 49.0% of respondents were studying computer literacy (information technology, computer science and applied computer science), 30.6% were studying engineering whereas 20.4% other fields of study (economic sciences, medicine, sociology and psychology).

Regarding the business ideas, the respondents presented within the questionnaire medium-tech and high-tech solutions responding to: business and public institutions' needs only (32.7%), population's needs only (48.0%) and physical and legal persons alike (19.3%). Due to the various number of high-tech and medium-tech fields, the business ideas belonged to the following three economic sectors: 25.5% Earth problem-solving (sustainability, smart mobility, agriculture, smart city, green tech), 36.7% business engineering (administration, manufacturing tech, IoT innovations, cybersecurity solutions, logistics, fin tech services, e-commerce, data analysis, digital marketing) and 37.8% human and animal welfare (health care tech, lifestyle and ed tech). In order to classify the business ideas of the sample according to the medium-tech and high-tech economic activities they belong to, we used the taxonomy proposed by EUROSTAT based on NACE Rev 2 and presented in Table 2 below.

Table 2.
Presentation of high-tech industries and high-tech services

Tech degree/Sector	High-tech industry	High-tech knowledge-intensive services (KIS)
High-tech economic activities	Manufacture of basic pharmaceutical products and pharmaceutical preparations	motion picture, video and television programme production, sound recording and music publishing activities
		programming and broadcasting activities
		telecommunications
	Manufacture of computer, electronic and optical products	computer programming, consultancy and related activities
		information service activities
		scientific research and development

Source: Eurostat Statistics Explained, Glossary: High-tech classification of manufacturing industries.

Moreover, 14.3% of the business ideas presented during the hackathon were devices with their corresponding applications (high-tech industry), 28.6% were platforms and 57.1% were applications (high-tech knowledge-intensive services). In the total business ideas, 44.9% changed a product or service whereas 36.7% aimed at bringing out new products and services. Only 18.4% were focused on processes, particularly on innovating a new method to reach potential customers.

For testing the first two hypotheses, we used crosstabulation to analyse the frequency of responses between 2 categorical variables on nominal scale and Pearson's chi-square test for independence. For test reliability, there should be no data entry errors, at least 80% of cells should have expected count less than 5 and the significance level should be less than 5%.

H1 is supported with $\chi^2(4) = 26.343$, $p=0.000$, underlining the importance that students give to the correlation of a start-up to their education. Motivation is important and having expertise in the field helps the entrepreneur to scale up the business with lower effort and less resources (time, logistical, human and financial).

H2 is supported with $\chi^2(4) = 15.962$, $p=0.003$ showing that innovation plays a central role in starting up new businesses in high-tech industries. But students are focused on the product and service itself and not on the processes implied in marketing them or on the management of the business. Innovation of new managerial methods for the business was taken into account by none of the respondents. Moreover, innovation of new methods to approach future customers got 18.4% (absolute frequencies) of total responses, having been given importance only related to intangible intellectual products like applications and platforms.

For testing H3, we analysed the responses to the 3rd question of the survey with the frequency table created according to the multiple responses given by respondents. The six responses received in total 198 answers, the most important being limited financial resources (29.80%), (rapid/accelerated) changing technologies (19.70%) and regulations/standards (15.66%) expressed as relative frequencies. Figure 1 shows the differences between genders with regard to the challenges they perceived in implementing innovations. We observe that student women well-thought-out every of the six challenges; notable differences between genders are recorded when thinking about regulations/standards, talent development and retention and rigid organisational culture. Little differences between the two sub-samples are registered at aggressive/high competition, (rapid/accelerated) changing technologies and limited financial resources, highlighting that both genders considered that their innovative ideas could be put at risk by the three challenges.

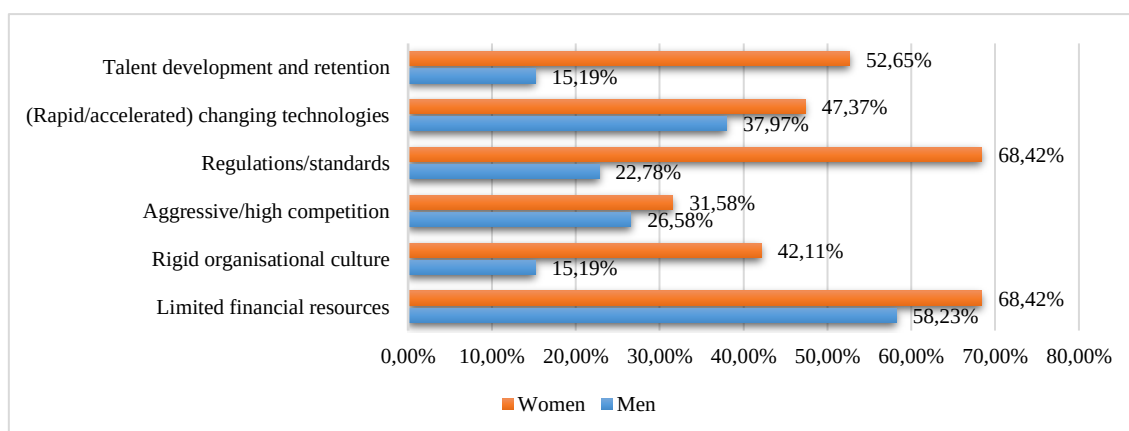


Figure 1. The challenges to innovation in high-tech start-ups.

When analysing with the test of independence the association between variables, we identified that there are differences in the distribution of:

- Regulations/standards between men and women, $\chi^2(1) = 14.750$, $p<0.05$, and between respondents living in rural and urban areas, $\chi^2(1) = 8.425$, $p<0.05$.
- Aggressive/high competition between respondents innovating new products/service, changed product/service and new methods to approach potential customers, $\chi^2(2) = 7.999$, $p<0.05$
- (Rapid/accelerated) changing technologies between respondents innovating applications, devices with their applications and platforms, $\chi^2(2) = 6.101$, $p<0.05$
- Talent development and retention between students studying computer literacy, engineering and other fields, $\chi^2(2) = 11.074$, $p<0.05$, and between the business fields students would like to innovate, variable valued as earth problem-solving, business engineering and human and animal welfare, $\chi^2(2) = 6.204$, $p<0.05$.

For the deep analysis of respondents' attitudes toward the topic, we designed 6 questions to assess in more detail the six challenges to innovation: the risks of lacking financial resources, of facing competition and of meeting legal provisions as well as the need of a powerful organisational culture to develop and maintain talent and of keeping up with the latest technologies.

The first, the financial risk, was analysed by dividing the sample into 2 sub-samples: conservative and careful (50.0%) and risk-takers and courageous (50.0%). The sample mean is of 3.47 with student women more risk-reluctant (mean of 3.10) than student men (mean of 3.56). The test of independence showed there was a difference between students matriculated with different study programmes in terms of risk perception (with $\chi^2(2) = 8.133$, $p=0.017$), students from computer literacy and other fields being more risk-avoiding than students in engineering. The second, the competition risk in the market, showed that respondents made decisions to innovate by analysing and researching the market (32.7%), intuitively (20.4%) and both ways (46.9%). We observed an association between this variable and programme of study ($\chi^2(4) = 11.131$, $p<0.025$) with students at computer literacy taking into account their competition both by intuition and by analysis and research (27.6%), and students in engineering, by analysis and research only (16.3%). Last, but not least, the legal risk, the third risk analysed, presented the degree in which respondents based their investment decision to innovate on the legal provisions and standards. The sample mean was 2.85 whereas men had 2.83 and women 2.94, so there are no differences between genders. Hence, 20.25% of student men and 26.31% of student women stated that they often or always made decisions to innovate by analysing the legal environment.

Previously, the rigid organisational culture was perceived as a challenge to innovation by 15.19% men and 42.11% women. When asked what aspects of the organisational culture were the most important to stimulate innovation, respondents provided 286 answers and the four variables created were uniformly represented in relative frequencies: 29.37% support for new and unconventional ideas, 27.62% promotion of open communication, 22.73% encouraging risk-taking and 20.28% rewarding (financial or otherwise) efforts. Moreover, results showed there were differences in the distribution of rewarding (financial or otherwise) efforts between men and women ($\chi^2(1) = 4.184$, $p<0.05$) and between business idea as platform, application and device and application ($\chi^2(1) = 7.076$, $p<0.05$). There is also significant association between innovation aims (to make a new product/service, to change a product/service or new method to approach potential customers) and support for risk-taking ($\chi^2(2) = 7.435$, $p<0.05$).

Changing technologies is a variable analysed in correlation with the entrepreneurs' willingness to update their knowledge about the trends and emerging technologies which could influence the industry. The sample mean was 4.10 with 4.27 for men and 3.36 for women; moreover, 42.9% stated that they would update knowledge to a high extent (39.8% men and 3.1% women). For a deep analysis, we regrouped the variable into two categories, lowest through mean (57.1%) and mean through highest (42.9%). We observed the association between respondents' attitude to keep up with the latest trends and gender (with $\chi^2(1) = 7.051$, $p=0.008$), study programme (with $\chi^2(2) = 8.303$, $p=0.016$), business field (with $\chi^2(2) = 8.909$, $p=0.012$) and innovation (with $\chi^2(2) = 10.435$, $p=0.005$). Hence, we underline the fact that there is a high degree of consciousness of the need to keep up with new and to innovate.

Talent development and retention is analysed more into detail by asking respondents to provide their opinion on the means they would involve their teams and promote collaboration and creativity in the innovation process. There were 273 answers for the four variables distributed as follows: 27.94% would use brainstorming and idea sessions, 25.37% would encourage feedback and suggestions, 25.0% would divide tasks by all the members whereas 21.61% would facilitate interaction and cooperation (in relative frequencies). Differences between participants in rural and urban areas were recorded in association with facilitation of interaction and cooperation (with $\chi^2(1) = 4.114$, $p=0.043$). We observed that 0% women and 13.33% men living in rural areas expressed this point of view showing the reluctance to using cooperation.

H4 was tested with the variables presenting the methods and instruments that respondents used to encourage and manage innovation within businesses. The results are uniformly spread, with Agile techniques receiving 29.6% of the responses, design thinking methods 26.5%, online cooperation platforms 24.5% and decision-making techniques having reached 19.4%. The null hypothesis is accepted as we found no association between the business field where to innovate and the managerial methods and instruments envisaged to be used within high tech start-ups.

The last aspect analysed in the research was the respondents' opinion about the benefits that innovation brings to high tech start-ups. The responses received showed that the most important benefit is the increase of customer satisfaction (36.7%), followed by the security of business sustainability (24.5%), the improvement of operational efficiency (21.4%) and increasing revenues (14.3%). H5 is supported (with $\chi^2(6) = 13.376$, $p=0.037$) showing the association between the business fields and the benefits brought to start-ups by innovation, thus: increasing customer satisfaction for businesses aiming at earth problem-

solving (8.2%) and human and animal welfare (20.4%) whereas improving operational efficiency for start-ups aiming at business engineering (14.3%).

To sum up, this research investigated the Romanian students' views on the innovation of the entrepreneurial ecosystem, focusing on high-tech business initiatives. Aspects needed for generating proper policies and research-centred strategic approach at national and local level were considered, thus meeting the three objectives formulated:

- a) We analysed Romanian students' attitudes towards innovations in high-tech industries and development within innovative start-ups;
- b) We identified the challenges young entrepreneurs might be faced with when managing innovation in high-tech start-ups;
- c) We assessed the benefits of innovation within high-tech start-ups.

Consequently, the results presented in this paper highlighted various relationships, of which the one between the study programme students were matriculated at and the fields of activity in which they intend to set up a high-tech business. Confirming the literature on innovation (Zhu & Cheung, 2017), the results emphasized the importance that students had given to linking a start-up with their education. Motivation is important and domain expertise helps the entrepreneur to develop the business with less effort and fewer resources (time, logistical, human and financial).

Research has shown that a higher start-up intention led to more innovative behavior (Lee et al., 2019). In Romania, there have been implemented large programs with European funding (Nicolau & Foris, 2018) to teach entrepreneurship and create incubators and technology transfer centres (Gagu & Kusio, 2024).

In addition, results also confirmed the association between start-up idea and innovation in high-tech businesses. The fact that students were focused on product and service itself more than on managerial processes would have positive consequences on their future business, but only on short term, in the first part of the implementation period of the business plan. Entrepreneurs should focus on both the technological and the non-technological component of innovation; the introduction of new management practices generates positive results on performance and contributes to the development of capabilities in technological innovation (Camisón & Villar-López, 2014) which should bring economic efficiency. According to this research, as participants did not give too much importance to the managerial processes (innovation of new methods to approach future customers got 18.4%, in absolute frequencies, whereas innovation of general managerial processes received no answer), we underline the need that public national and local policies should focus on increasing the theoretical knowledge and skills of entrepreneurs in the field of management, with a modern design of training methods and instruments. Specialty literature in the field showed this need (Li et al., 2020). Innovation management requires vision to design appropriate strategies and processes for implementing innovation, as well as conditions and an organizational culture that make it easier for ideas to emerge and for them to be implemented (Bel, 2010; Solaimani et al., 2019).

Hence, the research showed significant differences between genders with regard to the challenges of implementing innovations in high-tech start-ups. The results confirm that student women assessed as important all of the six challenges with weighty differences than men in terms of regulations/standards, talent development and retention and rigid organisational culture. In contrast, both genders had the same attitude at aggressive/high competition, (fast/accelerating) changing technologies and limited financial resources which were perceived as major challenges. The organisational culture, the pillar of innovation management processes, concentrates mutual convictions and formal and informal norms that influence how people are open to new ideas, approach problem solving, emphasize continuous learning and collaboration (Williams et al., 2022; Holbeche, 2023). The start-up culture shapes the way people think, influences how they approach challenges and manage risks. A culture that encourages employees to be creative, to think and implement new ideas and to adopt a continuous improvement mindset is a culture that promotes innovation. It is essential that this culture is underpinned by leadership that supports and fosters risk tolerance and openness to new ideas, that actively fosters an environment where failure is valued as an opportunity to learn and improve. Such an attitude encourages people to come up with new ideas, to experiment and to push the boundaries of conventional thinking. (Ren et al., 2020, Zala, 2021).

Under such circumstances, technological start-ups, in order to be able to surpass the risks they are faced with within their markets, engage in different strategic partnerships. It has been highlighted in recent

approaches that regardless of their nature, partnerships improve start-ups' ability to expand, enable them to overcome resource constraints by facilitating the exchange of know-how, allow them to get over resource constraints (especially financial), increase their competitiveness, and benefit of new opportunities (Peltonen, 2022; Mehrotra & Jaladi, 2022; Jones & Schou, 2023; Ahmad et al., 2024). This leads us to suggest that strategic partnerships create a collaborative ecosystem conducive to innovation. These elements are fundamental to the success of technology start-ups. (Mızrak, 2023).

Correspondingly, the results are partly unexpected, having identified no association between the field of innovation and the managerial methods and tools expected to be used in high-tech start-ups. This means that although students have innovative ideas and are aware of the managerial methods and tools that can help them to make their work more efficient, they do not focus on their use and do not highly appreciate their possible benefits brought to the efficiency of the business. In our view, young entrepreneurs shall train themselves seriously in business management, not focusing only on the business idea, the economic field and the consumer. Unlike large companies, the environment where start-ups operate is more uncertain, risky, full of resource constraints and features the need to adapt quickly. Therefore, alongside innovation, effective risk management becomes a key factor for survival and an important component in innovation management. A characteristic of the constantly evolving high-tech sectors is the speed of product/service development, often perceived as a risk itself. The need for responsiveness, adaptability and flexibility to the constant and rapid changes and the continual aim of eliminating errors have created new approaches to innovation management, such as Scrum and Lean Startup methodologies. They prioritise compliance, collaboration and customer-centricity, enable startups to react rapidly to changing market dynamics, test hypotheses and integrate feedback effectively (Tegegne et al., 2019; Zavazava, 2022; Olek, 2023; Ahmad et al., 2024). The common goal of the two methodologies is to speed up the product development process and ensure that final products are in line with customer needs.

In contrast to the conventional waterfall model, agile methodologies acknowledge the dynamic nature of customer requirements and the potential for customer feedback to generate new insights. By adopting a flexible and adaptable approach, these techniques allow new businesses to adapt quickly to market trends and consumer behaviours, user feedback or emerging technologies, seizing new opportunities and gaining a competitive advantage over their competitors. Hence, as agile methodologies prioritise customer requirements, they facilitate the innovative development of solutions that not only meet but also exceed user expectations, thereby enabling start-ups to gain a competitive advantage (Corvello et al., 2023; Griva, et al., 2023).

Finally, the results reveal that there is a significant association between the business areas and the benefits of innovative start-ups, with the most important benefit being increased customer satisfaction, followed by ensuring business sustainability, improved operational efficiency and increased revenues. By boosting performance and achieving better outcomes with technological innovation, start-ups are to benefit from the implementation of innovation. Innovation management is related to new practices in organization structuring and management of administrative systems, processes and techniques that may create value for the companies because of their potential to bring about strategic transformations, organizational renewal and improvements of firms' efficiency (Walker et al., 2015).

Subsequently, these findings may have important implications for student entrepreneurs, universities and the stakeholders within the Romanian entrepreneurial ecosystem. Firstly, all stakeholders should participate in the creation of entrepreneurial strategies to develop local communities. Secondly, the public institutions should establish partnerships with the universities to develop curricula to encourage entrepreneurial mindset and skills, also engaging research institutes and industry to ensure that these training programs are designed to meet entrepreneurial needs. Also, universities should provide physical spaces for the intermediary organizations (business incubators and accelerators) to advance their projects and programmes to develop the entrepreneurial ecosystem, as they are change agents for the sustainable innovation of small and middle-sized companies (Mota Veiga & Teixeira, 2022). Thirdly, investment institutions should provide entrepreneurs with fund (for start-up and development as well) whereas incentivize the establishment of venture capitals (VC) and angel investors. This can be achieved through direct financial support, such as investment commitments to VC funds for engagement in the county (to create a local equity market), or co investment in students' start-ups together with private investors (to crowd-in private sector investments).

Last but not least, the institutions in collaboration with start-ups and intermediaries should simplify the procedures for incorporating businesses and administrative procedures.

To conclude, our research provides insights into the specific context of Romanian universities, with its localization and underrepresentation of women in the sample (Zamfirache et al., 2023) be possible limitations. As for analysing the different policies and management cultures in universities in other countries, our study is may be reproducible and bring out valuable information for the future strategic development of the entrepreneurial ecosystem. However, an international comparison could provide interesting results controlling for university cultures and policy contexts. Further research might use a sample more representative of a population and also could incorporate additional variables.

Conclusions

This research has provided significant insights into the development of student entrepreneurship in high-tech industries within Romania's emerging economy context. Our findings demonstrate relationships between educational backgrounds and entrepreneurial choices in high-tech fields, while revealing important gender-specific challenges in innovation implementation. The study particularly highlights how students strongly align their entrepreneurial ventures with their academic expertise, though there remains a notable gap in their appreciation of management processes alongside technical innovation.

The implications of these findings are substantial for multiple stakeholders in the entrepreneurial ecosystem. Universities should develop curricula that more effectively encourage entrepreneurial mindset and skills, while public institutions need to establish stronger university partnerships for entrepreneurship development. Additionally, investment institutions have a crucial role in providing startup funding and incentivizing venture capital participation, particularly in supporting student-led ventures in the high-tech sector.

For the advance of the entrepreneurial ecosystem, our findings suggest the need for integrated strategies at the local community level, including the creation of physical spaces for business incubators and accelerators. The simplification of business incorporation and administrative procedures emerges as a critical factor in supporting student entrepreneurship. Public policies should focus on increasing entrepreneurs' theoretical knowledge and skills in business management, with particular attention to modern training methods and instruments.

While our study provides insights into the Romanian context, future research could benefit from international comparative studies that control for different university cultures and policy contexts. Additional investigation into management education needs within technical entrepreneurship programs and research on effective support mechanisms for student entrepreneurs would further enhance understanding in this field. These findings contribute to both theoretical understanding and practical development of student entrepreneurship in high-tech industries, particularly in emerging economies like Romania, while opening new research paths in entrepreneurial education and support systems.

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Effects of creative drama-based diet-exercise on preschoolers' preferences for and consumption of healthful foods

تأثير تدخل النظام الغذائي والتمارين الرياضية القائم على الدراما الإبداعية على تطوير تفضيلات الأطفال في سن ما قبل المدرسة واستهلاكهم للأطعمة الصحية

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Abstract

This study examines the effects of Creative Drama-based Diet-Exercise intervention on developing preschoolers' preferences for and consumption of healthful foods. A quasi-experimental experiment was designed and implemented. 40 children (66.6%) were girls and 20 (33.3 %) were boys. The sample was randomly divided into two groups: treatment (n=30 children), and control (n=30 children). To collect and analyze data, pictured questionnaires were used. A play-based nutrition program was developed. The program was based on social Cognitive Theory (SCT), as it involves concepts that have been established as crucial factors in children's healthy eating behaviour development. Results show that there is a significant difference between the two groups after provision of creative drama-based diet-exercise intervention. The difference is for the treatment group.

Keywords: creative drama, diet-exercise intervention, healthful foods, preferences, preschoolers.

المخلص

تهدف هذه الدراسة الى البحث في تأثير تدخل النظام الغذائي والتمارين الرياضية القائم على الدراما الإبداعية على تطوير تفضيلات الأطفال في سن ما قبل المدرسة واستهلاكهم للأطعمة الصحية. تم تصميم وتنفيذ تجربة شبه تجريبية. تتكون عينة الدراسة من (60) طفلاً، تم تقسيمهم عشوائياً إلى مجموعتين: تجريبية (n = 30 طفلاً) وضابطة (n = 30 طفلاً). لجمع وتحليل البيانات، تم استخدام الاستبيانات المصورة. تم تطوير برنامج تغذية قائم على الدراما الإبداعية. تظهر النتائج أن هناك فروقا دالة بين المجموعتين بعد تقديم تدخل النظام الغذائي والتمارين الرياضية القائم على الدراما الإبداعية، وهذه الفروق في صالح المجموعة التجريبية.

الكلمات المفتاحية: الدراما الإبداعية، التدخل الغذائي والتمارين الرياضية، أطفال ما قبل المدرسة، التفضيلات، استهلاك الأطعمة الصحية.

Introduction

A description of the problem

The integration of children's drama education into campus activities can give children a deeper understanding (Perez-Rodrigo et al., 2003). Australian research found that theater performances improved

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children's healthy eating attitudes and student nutrition activities (Bush et al., 2018). The study used creative drama to provide dietary training for overweight and obese adolescents and found that training courses designed with creative drama methods significantly changed the adolescents' knowledge, attitudes, meal order and weight and also significantly reduced (Demir Acar & Bayat, 2019). A study by Xu & Yun (2022) indicated that balanced drama intervention enhances children's nutritional knowledge and food cognition, and the study also found that the effect is more significant for girls than for boys.

Studies that dealt with nutrition problems are rare in our country. Asia faces a challenge of hunger in its population of under-five. The reported prevalence of overweight is less than 5.2 per cent lower than the worldwide average of 5.9 per cent. The prevalence of stunting in the under-five is 22.7%, higher than the global average of 21.9%. The prevalence of waste in Asia is also 9.4% higher than the global average of 7.3%. About 42.3 per cent of children under six months of age are breastfed in the Asian world, while the world's total low birth weight rate of 17.3 per cent is higher than the global average of 14.6 per cent (Okolo et al., 2021). Creative drama is a possible solution for this problem. Creative drama is among the most important kindergarten activities, as its characteristics and features are consistent with those of young child's age (Erbay & Ömeroğlu, 2013). Interactive and participatory learning through the creative drama technique effectively increased students' obesity awareness and promoted healthy nutrition-exercise behaviors (Eryiğit et al., 2024). To provide nutrition education by using creative drama-based diet-exercise in order to change children's nutrition, it is especially important to support programs and factors that enable positive behavior that are effective in students' habits in this regard.

Literature Review

Creative drama positively affects the development of the child's individual and social skills. In addition, it strengthens the child's physical skills and the capacity to solve the problems he/she faces (Boal-Palheiros & Ilari, 2023). Through creative drama, events and situations and the connections between them can be easily learned. In creative drama, people create a world they imagine based on their knowledge and experiences. On the other hand, drama, which is a social process, requires communication. The meaning of creative drama is to develop the participation of individuals. With creative drama, the seeds of learning the values that strengthen the individual's social unity based on cooperation and rules are also laid. Accordingly, in the early stages of the lives of people living together within certain cultural and moral bonds, the restorative and constructive effect of play represents an important support point for the construction of sociality (Gezen, 2022).

Additionally, creative drama is a concrete, interpretable, creative and experience-based learning process instead of the abstract learning style that is based on memorization and remains at a theoretical level. This process, where knowledge and experience come together, enables the development of cognitive and psychological integrity in the student (Karaosmanoglu & Adiguzel, 2021). In addition, creative drama helps individuals gain characteristics such as self-expression, development of imagination and artistic awareness, social awareness, cognitive awareness, speech fluency, self-awareness, development of self-esteem, self-confidence and self-discipline (Karaosmanoglu & Adiguzel, 2021).

Moreover, creative drama applications are carried out using various theater techniques under the guidance of the teacher within the scope of a determined subject. Research conducted within the scope of creative drama reveals the effectiveness and necessity of creative drama applications in preschool education. Children both learn and have fun with creative drama applications. Creative drama applications are also effective on all psychological processes related to cognitive activities, thinking and knowing. Cognitive activities cover the processes of how information is obtained, processed and organized. Cognitive development studies how these mental processes work in children and young people. As children develop, their thoughts also change. Creative drama applications also contribute to children's cognitive development (Öz et al., 2022).

In a broad sense, children's drama can be divided into two concepts: one is children's stage drama with performance as the goal, and the other is children's educational drama activities with education as the goal. Children's educational drama activities are not to perform a drama on stage for children to watch or let children perform a drama, but a group drama activity with children as the center and education as the purpose, under the premise of using drama elements and strategies (Akyol, 2003). Children's educational drama, by bringing together children's thoughts, imagination, language and real experience, under the guidance and support of teachers, achieves the educational effect of increasing children's knowledge,

cultivating children's emotions, promoting children's aesthetics, and cultivating children's comprehensive abilities (Çilengir & Akar, 2016).

The main implementation place of educational drama is generally classrooms or other children's activity areas, rather than the stage of the theater. Its significance is to let children immerse themselves in a certain story framework and drama structure. In the process of cooperation between teachers and children, teachers and students spontaneously create situations and play roles together. Children get to know themselves, others, and the world in the process of exploring drama stories (Barakat, 2023; Cömertay, 2006).

As a diversified, inclusive and creative teaching method, educational drama meets the requirements of the development of the current era. Preschool teachers use comprehensive drama art forms and creative drama teaching methods to guide children to develop in an all-round way, taking "accompanying children who develop in all aspects in the new era" as the ultimate educational goal (Ulutaş, 2011). In the kindergarten stage, educational drama helps solve the problems of excessive intervention by kindergarten teachers and the separation of content in the five major areas. It uses educational drama methods to comprehensively integrate teaching work in various fields, so that children's various abilities can be fully developed in the immersive experience of drama, and drama elements can be fully integrated into kindergarten teaching, so that kindergarten teaching can reflect the educational goal of "taking children as the center" (Metwalli & Barakat, 2022; Yalçın & Akar, 2016).

Drama provides an opportunity for children to express themselves, as it is characterized by group participation in improvisational writing, spontaneous diagnosis, and natural, unconscious group production (Schwenke et al., 2020). The child's involvement in dramatic activities confirms his understanding of human behavior, himself, and the world in which he lives (Çilengir & Akar, 2016). This is evident through their enjoyment of transforming their experiences into improvisational drama (Erbay & Ömeroğlu, 2013). Creative drama is a purposeful educational method that can be used in the form of educational experiences in which the child feels pleasure, and it conveys many different knowledge, concepts and values, and behavioral modification (Genç, 2003). Through creative drama, the child is trained to assume roles to modify negative behaviors and replace them with positive ones. This increases the child's awareness of his behavior through these roles. It is through creative drama that the child feels what other people actually feel (Gürey & Adıgüzel, 2013).

Children are in the process of growth and development, especially their brain functions are developing rapidly, their nervous systems are maturing, and their mental and behavioral habits are beginning to form. They need to consume a lot of energy, have a huge demand for nutrients such as vitamins, minerals, and trace elements, and have a high requirement for dietary diversity (Artemova et al., 2023; Perkins et al., 2018). Other studies have shown that long-term bad eating behavior not only causes malnutrition or overnutrition in children, but also affects their intellectual development and the formation of perceptual functions, and even affects parent-child and social relationships (Faith, 2005). These experiences shape children's preferences for certain foods as well (Skinner et al., 2022). Children are said to learn dietary behaviours through experience, as they are at an age stage that is important in forming their food preferences (Liem & Menella, 2002).

One of the conditions for being mentally, physically and spiritually healthy is an adequate and balanced nutritional habit. A balanced diet is vital for children; because the basic developmental areas of children are directly linked to nutrition (Skinner et al., 2022). The mental potential of a child who is fed adequately and balancedly increases, his height and weight follow a normal development line, his joy of life increases and his resistance to difficulties increases (Brown & Ogden, 2004).

Nutrition is a term that includes the intake of nutrients necessary for the functioning of the body and their use in the body as a result of a series of processes such as digestion, absorption and transport (Merdol, 2008). For a healthy life, nutrients must be taken into the body in an adequate and balanced manner. Adequate and balanced nutrition is important to meet not only physiological needs but also psychological and sociological needs (Piziak, 2021; Saraç et al., 2023; Toussaint et al., 2021). Malnourished societies have a ten times higher death rate than adequately nourished societies (Brown & Ogden, 2004). The World Health Organization (WHO) stated that diet-related chronic diseases are the main cause of 60% of deaths and 46% of diseases (Merdol, 2008).

Countries need physically and mentally healthy individuals to reach the level of developed countries. In order for people to be physically and spiritually healthy, they need to have an adequate and balanced diet throughout their lives. Nutrition is the ability of the body to take and use all the nutrients required by the body in the amounts required to sustain life and protect health, according to the human structure, gender, working and special situation and genetic characteristics (Nakamura, 2022).

The aim of child nutrition is to ensure optimal growth and development of the child. The main differences that distinguish the nutritional needs of children from adults are that their basal metabolic rates are higher than adults due to growth and development, and their protein, vitamin and mineral needs are different from adults due to tissue formation (Merdol, 2008).

It is not that difficult to observe and measure food preferences in preschool children. Moreover, there are interventions that are known to be involving repeat exposure and helping to increase familiarity. Additionally, food preferences correlate positively and highly with food consumption. Thus, food familiarity, food preference, and food consumption are patterns that help in the development process of in taking healthful foods and this can be a preventive method against overweight and obesity (Jarvensivu, 2017).

Feeding behavior refers to the specific methods or behaviors that parents use to influence children's eating. This behavior itself includes a large number of factors, such as the behavior of the feeder when feeding, the behavior of the child when being fed, food, and environment. It is not only affected by the knowledge, attitude, socioeconomic culture and other factors of the feeder, but also by the physical constitution, personality and other factors of the child. (Røed et al., 2020; Shim et al., 2016).

In the literature, the studies on the effects of creative drama-based diet-exercise intervention are limited. Educational drama focuses on students' personal experience and emphasizes "student-centeredness" so that they can understand educational content through actual experience. Compared with traditional mental health education, students can learn knowledge more quickly and effectively, experience various emotions, and apply these knowledge and emotions to real life, which enables them to better adapt to the environment and achieve the purpose of quality education (Destriatania et al., 2019).

Preschool children's educational drama is a creative and interactive educational method that can stimulate, encourage and attract preschool children's interest in learning. It forms a systematic and experiential teaching model through games, pretending, experiencing stories, participating in role-playing and creating plots. Preschool children's educational drama is based on imagination. It can activate children's imagination and improvisational creativity and awaken their instinct to play. Through the actual use of some comprehensive artistic means, teachers and children jointly conceive and participate in the development process of a drama story. The drama story development process is tailored to the needs and developmental levels of young children and embeds drama methods and content into a progressive learning process centered on a collective creative process. (Destriatania et al., 2019; Perry et al., 2002; Tatlı et al., 2022).

Drama-based education is an efficient method to help children understand the concept of healthy eating behavior (Nicklas et al., 2017). Story-telling health videos can increase children's physical exercise self-efficacy and enhance intrinsic motivation for fruit and water intake. The literature also points out that the prolongation of maintenance effectiveness needs to be strengthened (Le Bigot Macaux, 2001; Wang et al., 2017; Wardle et al., 2001). A study on the impact of drama teaching on story understanding, recall and learning motivation of second grade children in elementary schools pointed out that drama teaching has a significant effect on improving children's story recall ability (Liao, 2001). The conclusion of this study is that the balanced diet drama model has a long-term memory effect on school children's nutritional education and can significantly improve school children's food cognition.

Shan Jing (2022) investigated the effect of balanced diet drama intervention in nutrition education on the dietary behavior of elementary school children. Using a pre-test and post-test design, the second graders of elementary school were given self-made questionnaires before, one month and six months after the intervention to evaluate the nutritional knowledge and food cognition. The sample number of schoolchildren was 1755, and the average recovery rate of valid questionnaires was 68%. After the intervention of balanced-diet dramatic performance, there was significant differences on eating habit, life habit, nutritional knowledge and food cognition in tested students ($p < 0.05$), and the significant differences persisted to six months after the intervention.

Aims

The aim was to investigate effects of Creative Drama-based Diet-Exercise intervention on developing preschoolers' preferences for and consumption of healthful foods.

Hypotheses

H1. It is expected that scores in preferences for healthful foods will increase in the intervention group.

H2. It is expected that scores in consumption of healthful foods will increase in the intervention group.

Methodology

Design

The aim was to explore the effects of creative drama-based diet-exercise intervention on developing preschoolers' preferences for and consumption of healthful foods. A quasi-experimental experiment was designed and implemented.

Sample

104 children were recruited. All of them were preschoolers. Inclusion criteria were as follows: a) Always attending school, b) Willing to participate in the study, and c) Willing to attend and collaborate in the training sessions. Exclusion criteria were as follows: a) Unwilling to participate in the study training, and b) Irregular in his attendance at school. 40 children (66.6%) were girls and 20 (33.3 %) were boys. The sample was randomly divided into two groups: treatment (n=30 children), and control (n=30 children). (See table 1. and fig.1).

Table 1.

Characteristics of the participants

Variable	Treatment group		Control group		p
	n	%	n	%	
Gender					
Female	20	66.6	20	66.6	0.823
Male	10	33.3	10	33.3	
Socioeconomic level					
Low	2	6.6	3	10	0.774
Medium	18	60	16	53.3	
High	10	33.3	11	36.6	

(Prepared by the author)

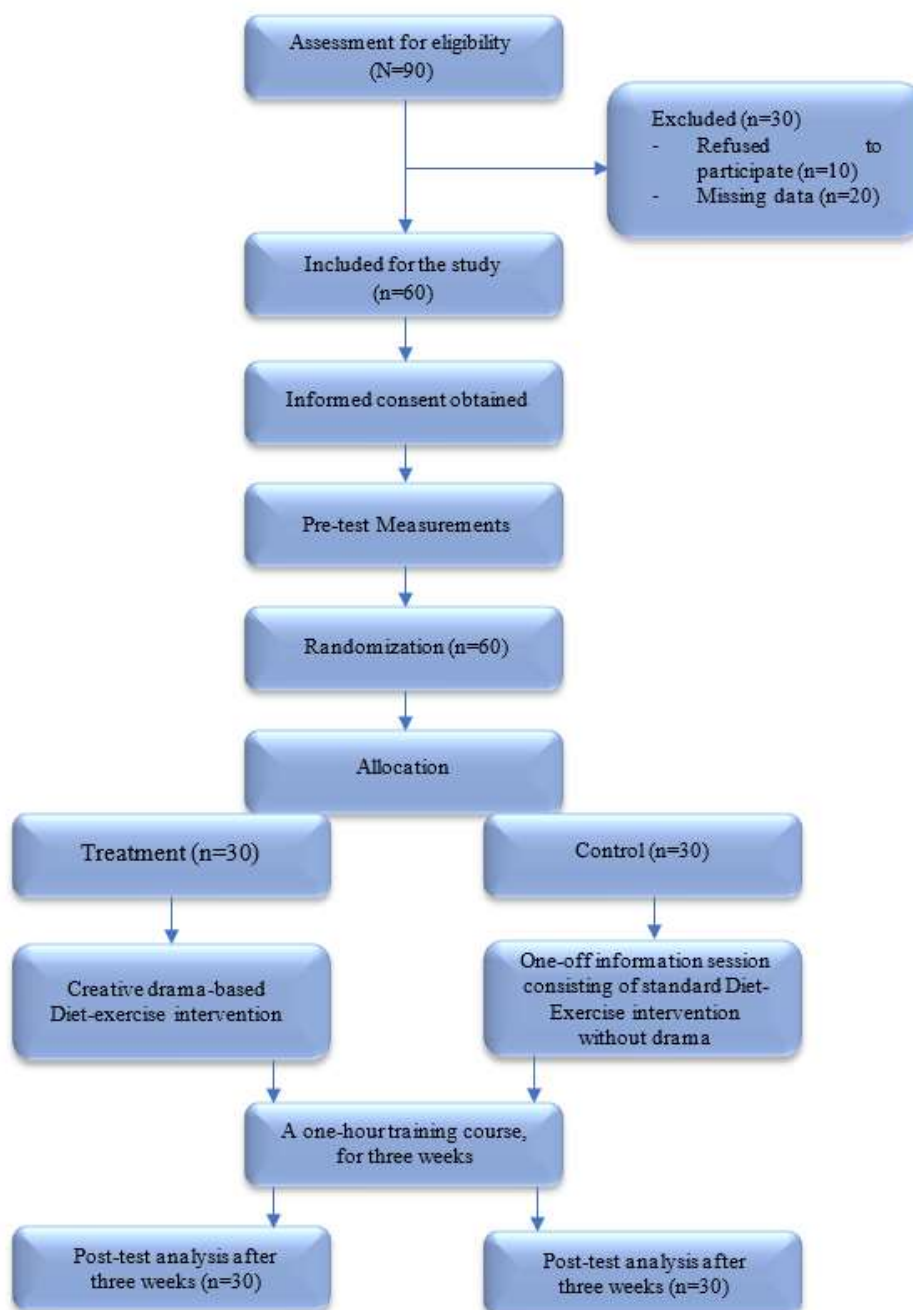


Figure 1. Participants flow chart.

Source: The authors.

Instruments

Child Preferences: Children are shown 15 cards with one type of food on each. They are asked to rate their likes and dislikes on a five point likert type scale. five cards with the facial pictures are put on the table. Child points to and chooses the appropriate face. Possible range for child preference was 15 to 75 with a score of fifteen reflecting total refusal of all test foods. Cronbach's alpha coefficient for this test is α 0.86.

Child Consumption of healthful foods: Children are shown 15 cards with one type of food on each. They are asked to say how often they would like to eat each on a four point likert type scale. Possible range for child consumption was 15 to 60 with a score of fifteen reflecting total not eating of all test foods. Cronbach's alpha coefficient for this test is α 0.89.

Statistical Analyses

Descriptive statistics were used to provide a description of the study sample. T-tests analyses were performed to determine whether there were differences between pretest and posttest measures for both the intervention and control groups.

Data Analysis

SPSS 21.0 package program was used for data analysis. $P < 0.05$ was accepted as the significance level.

Procedure

Control group received a one-off information session consisting of standard Diet-Exercise intervention, without drama, delivered by the second author. This group received no further contact.

Intervention delivery

A play-based nutrition program was developed. The main focus of the nutrition program is on developing healthy eating behaviours. The program incorporated six learning areas— personal and social development, language, mathematics, science and technology, health and physical activity, and the arts. The program was based on social Cognitive Theory (SCT) (Stage et al., 2018), as it involves concepts that have been established as crucial factors in children's healthy eating behaviour development (21, see table 2). Three different dramatic play centres were employed. Each are explained in terms of the objectives, role-playing opportunities for children, materials needed, and discussion topics. (See figures from: Shopping at the Grocery Store - English Conversation shown to children. This can be reached at: <https://www.youtube.com/watch?app=desktop&v=GINbzAGZC2M>) (see Figure 2)

Table 2.

Description of the three Dramatic Play Centres and Activities

Creative Drama-based Diet-Exercise: Centre & Roles	Healthy eating behavior and activities performed	Learnt Language activities	Learnt Math activities	Learnt Social Skill, Art, Science, activities
Centre 1: Grocery Store	Children observe teacher modeling and discussing healthy grocery store purchasing options. They role play practicing healthy foods choice in a grocery store. With their teachers and peers, children discuss choosing, purchasing, and preparing a variety of foods	Children learn to create signs for the store, labels, and posters for different store sections.	Children explore the shapes of different foods, practice using money and sort and classify foods.	Discuss with their peers what to purchase, learn how different foods are grown, and develop dramatic arts through trying out a variety of roles
Centre 2: House (kitchen)	Children observe their parents making healthy food choices in home setting. They practice making healthy food choices at home. They learn about food allergies.	Children make a list of meal menus for the week.	Children count the number of different foods, the number of plates/bowls/spoons, etc needed at the table. They examine how numbers are used in food labels	Children develop dramatic arts through dramatizing different cultural celebrations involving food. They following the steps of a recipe.
Centre 3: Restaurant	Children observe their adults choosing healthy foods off menus. They discuss making healthy choices off menu	They practice creating menus. They learn to mention their orders.	Children examine how numbers are used in menus	They learn and practice hygiene and safety. They develop dramatic arts through dramatizing different practices

Source: The authors



Figure 2. Shopping at the Grocery Store - English Conversation

Source: Easy English (n/d)

Results

In order to verify the hypothesis, t-test was used to compare test mean scores between experimental and control group. Table 3 shows T-test results for the differences in post- test mean scores between the two groups in Preferences. As shown, T for Preferences=13.49, $p < 0.01$ (see figure 3 for clarification).

Table 3.

T-test results for the differences in Preferences

Variables	Group	N	Mean	Std. deviation	T	Sig.
Preferences	Treat.	54	66.182	1.02	13.49	.000
	Cont.	50	35.228	1.40		

Source: The authors

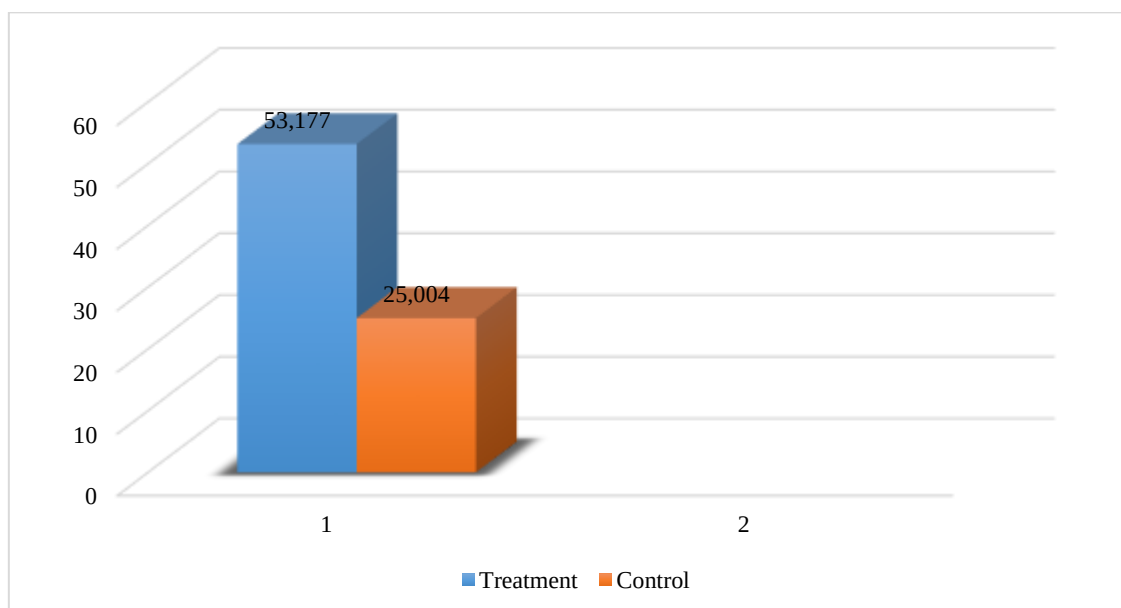


Figure 3. The differences in post- test mean scores in Preferences

Source: The authors

In order to verify the hypothesis, t-test was used to compare test mean scores between experimental and control group. Table 4. shows T-test results for the differences in post- test mean scores between the two groups in consumption. As shown, T for Preferences=14.22, $p < 0.01$ (see figure 4 for clarification).

Table 4.

T-test results for the differences in consumption

Variables	Group	N	Mean	Std. deviation	T	Sig.
Consumption	Treat.	54	53.177	1.00	14.22	.000
	Cont.	50	25.004	1.12		

Source: The authors

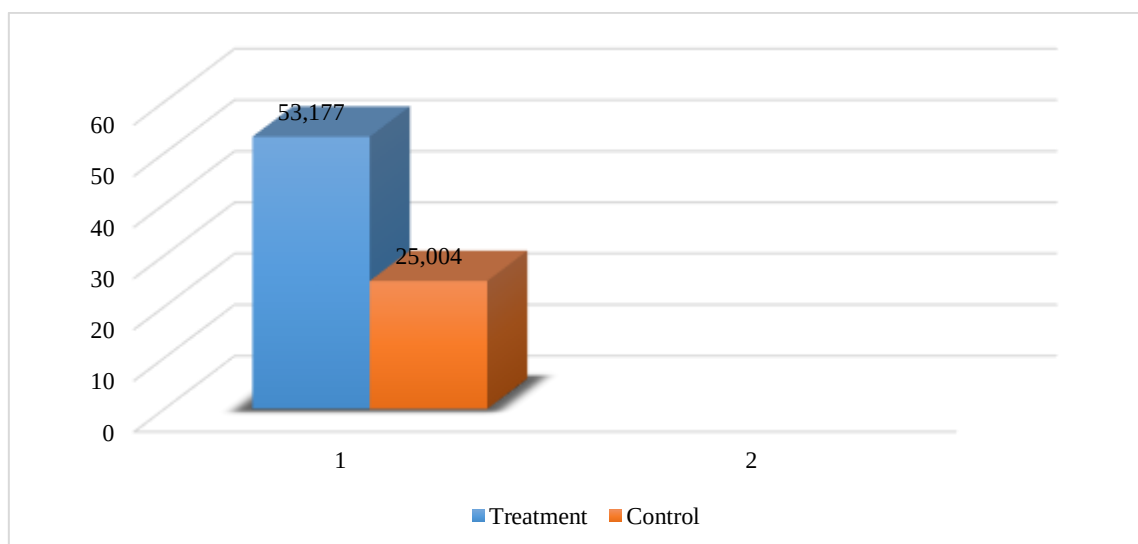


Figure 4. The differences in post- test mean scores in consumption.

Source: The authors

Discussion

This study mainly explores the impact of creative drama-based diet-exercise intervention on developing preschoolers' preferences for and consumption of healthful foods. Results show that there is a significant difference between the two groups after provision of creative drama-based diet-exercise intervention. The difference is for the treatment group.

The importance of healthy nutrition in children is emphasized for achieving ideal growth and development curves, developing cognitive functions appropriate to age, and preventing metabolic diseases. Acquiring healthy eating habits in childhood forms the basis of a healthy lifestyle that will be maintained throughout life (Suleiman-Martos et al., 2021).

Especially today, increasing childhood obesity is caused by unhealthy nutrition and lifestyle habits. This situation causes children to consume unhealthy food and drinks that they are constantly exposed to through school cafeterias, social circles and television advertisements. In this context, effective tools are needed to teach children healthy eating habits. In line with this need, gamified nutrition education has the potential to attract children's attention. Studies in the literature show that gamification positively affects children's and adolescents' knowledge and behaviors regarding nutrition. At this point, the game model developed within the scope of this study stands out as a tool to help children gain healthy eating habits and facilitate lifestyle changes (Çakmak & Simzari, 2024).

The literature points out that game intervention is an effective educational method for children's healthy eating education (Chow et al., 2020). Simultaneously with the experimental group, which was taught about food through creative drama applications, the researcher taught the subject of food to the control group using plain narration and question and answer techniques. At the end of the education given on the subject of food through creative drama applications, when the food drawings of the students in the experimental

group in the first part of the Preschool Food Teaching Test were examined, it was seen that the foods in the food groups were drawn.

Other studies in which creative drama was used as a method in nutrition education support the results in favor of the experimental group (Maghfiroh et al., 2021; Özensoy, 2010). Kara & Aslan, (2018) stated in their study that 40 creative drama activities prepared for nutrition education were effective in nutrition education. According to Tolluoğlu (2009), it was stated that creative drama, discussion, problem solving, question and answer, discussion methods were more effective than the plain narration method in determining the basic nutrition knowledge levels of third-grade students studying at the primary school level. It was stated that techniques such as games and rhymes that make the student active were more effective in increasing the knowledge levels of students studying at the preschool level (Nanney et al., 2017).

Sütçü (2006) stated in his study that creative drama education has a positive effect on children's eating habits. Obalı (2009) concluded that education given with a project approach provides positive developments in the level of knowledge about food groups. Koroglu (2009) stated in his study that families do not consume enough of the food groups they should consume daily. Gündoğdu (2009) concluded in his study with preschool teachers that preschool teachers stated that the most important meal is breakfast, but teachers consume simit and pastry at breakfast. It was reported that some teachers consume fruit and some drink tea during snacks. Oğuz (2011) classified children according to their weight rates in his study and concluded that they are of normal weight for their age, boys choose more food than girls, and children consume milk, cheese, yogurt, olives, eggs, soup and fruit every day.

Based on creative drama, play is a phenomenon that provides children with the opportunity to learn by doing and experiencing information, and supports their mental, emotional and social development. Such a creative process, where imagination, skills and interpretation are combined with play, opens the doors to multi-faceted development (Vaughn et al., 2018).

Activities helped children acquire knowledge, information, skills, behaviors, and positive attitudes through interactive activities that encourage children to be health-conscious in terms of personal and public hygiene, healthy food, disease prevention, and risk prevention. This is consistent with what Mayesky (2016) indicated that creative drama is a means of understanding and modifying the child's behavior, and also works to provide him with many different concepts, experiences, and values. In addition, it is considered a field for the child to express what is inside him, and it allows him to perform some roles automatically.

The children practiced the activities and involved them in preparing and designing its tools, dividing roles among themselves, and working in an educational environment as a single unit to achieve the goal of the activity (Fathonah et al., 2024; Joronen et al., 2012), which increased motivation to learn, increased social interaction and integration into activities, and contributed to developing health awareness that was clear in participation and selection of groups. This was confirmed by both the behavioral and social theory of Bandura (Linde et al., 2022), that the educational environment and the social environment surrounding the child when they feel an atmosphere of interaction and affection, they have thus acquired many concepts and values that help them control unhealthy behaviors, and move towards healthy behaviors related to hygiene, healthy food (Sundin et al., 2018), and prevention of various diseases and risks. This is consistent with what was confirmed by the study of both Erbay, & Doğru (2010), Lindberg (2015), and Brown (2017), who all emphasized the importance of creative drama activities for children, which help them play freely, how to deal with others, and support positive relationships in an atmosphere of fun and happiness.

Establishing a healthy diet younger children (in the kindergarten) is crucial for their health in the long run (Nasreddine et al., 2019; Tandon et al., 2016; Yıldırım Süt & Kutluca, 2021). In order for diet to be of a good quality, children should on one hand frequently consume different types of foods such as fruits, vegetables and whole grains and on the other hand infrequently consume foods high in sugar, salt and/or fat (Scaglioni et al., 2018).

Paying attention to food and healthy nutrition is especially important in early childhood. Because it is directly related to all aspects of the child's growth and development, healthy food rich in nutrients is necessary to build a healthy body, mind, and nervous system for the child (Destriatania et al., 2019; Jarman et al., 2022), and lack or malnutrition during this stage negatively affects physical growth, mental

abilities, ability to think, motor coordination, language skills, energy, activity, and behaviors (Perez-Rodrigo et al., 2003).

When children have a direct contact with foods through tasting, feeling, seeing, and smelling learn about their food likes and dislikes. They also can do this observing their food environment, for example, the eating behaviors of others (Nekitsing et al., 2018; Rosy, 2017). Preferences for and consumption of healthful foods across sex and gender groups are well-established in the literature (Deslippe et al., 2023; Ares et al., 2024).

We point out here the importance of education or nutritional education for all different age stages, and for everyone, male or female, from childhood, starting with those in kindergarten to adults, in order to avoid exposure to malnutrition and immunodeficiency diseases (Destriatania et al., 2019), and it is also necessary to prevent the occurrence of growth deficiencies mentally and physically, especially in the early stages of life.

Limitations and future research

One limitation was that this study was conducted with preschoolers, and the results can only be generalized. This study shows that creative drama-based diet-exercise intervention can develop preschoolers' preferences for and consumption of healthful foods. Future studies should integrate gender, because it is responsible for many of the choices made throughout life. Also, it would be influential to use Pretest-posttest follow-up experimental design.

Conclusion

Creative drama is very important in preschool education. In addition to children learning by doing and experiencing with the creative drama method, it provides an entertaining education and training environment by adding gestures, facial expressions and emotions to the learning process. For this reason, creative drama is one of the indispensable building blocks of preschool education. The basis of raising healthy and productive future generations is to teach children the foods that should be consumed for proper and balanced nutrition. While providing information and skills regarding nutrition education at the preschool education level, which forms the basis of adult knowledge and skills, it is important for children to feel comfortable, have fun, think of creative ideas and express these creative ideas. All of these can be provided with the creative drama method at the preschool education level. At the same time, it is recommended that creative drama be used as an effective tool in interventions to help children gain healthy eating habits and prevent problems such as obesity.

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ETHICS STATEMENT

The studies involving human participants were reviewed and approved by department of Early Childhood Education, college of Education, Northern Border University, KSA. Participants provided their written informed consent to participate in this study. Written informed consent was obtained from the participants.

CONFLICT OF INTEREST STATEMENT

The author declare that they have no conflict of interest.

Author Contribution Statements.

Afaf carried out the experiment. Rasmeya wrote the manuscript with support from Afaf. Afaf fabricated the sample. Rasmeya helped supervise the project. Afaf & Rasmeya conceived the original idea. Afaf supervised the project.

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Theoretical and praxeological foundations of investigating crimes against freedom, honor, and dignity in Ukraine during wartime

Теоретико-праксеологічні основи розслідування злочинів проти свободи, честі та гідності в Україні у воєнний час

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Abstract

During armed conflict, human rights violations such as illegal detentions, torture, and enforced disappearances significantly increase, threatening citizens' rights and freedoms. Investigating these crimes in wartime presents unique challenges, including limited access to evidence and the safety risks for victims and witnesses. Effective pre-trial investigations are crucial for justice, restoring victims' rights, and holding perpetrators accountable, which also strengthens public trust in the criminal justice system.

This article aims to analyze the theoretical and praxeological foundations of investigating crimes against a person's liberty, honor, and dignity in Ukraine, particularly in wartime. It examines legal norms, procedural aspects, and current challenges in protecting individual rights during conflict,

Анотація

Під час збройного конфлікту порушення прав людини, такі як незаконні затримання, катування та насильницькі зникнення, значно почастишали, що загрожує правам і свободам громадян. Розслідування цих злочинів у воєнний час представляє унікальні проблеми, включаючи обмежений доступ до доказів і ризики для безпеки жертв і свідків. Ефективне досудове розслідування має вирішальне значення для правосуддя, відновлення прав потерпілих та притягнення винних до відповідальності, що також зміцнює довіру суспільства до системи кримінального правосуддя.

Метою статті є аналіз теоретико-праксеологічних засад розслідування злочинів проти свободи, честі та гідності особи в Україні, зокрема у воєнний час. У ньому розглядаються

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focusing on the difficulties of identifying, investigating, and proving such crimes.

The research uses a comparative analysis of Ukraine's legal framework with international standards, empirical research to identify practical challenges, and legal policy analysis to propose improvements.

Key findings include the need for specialized investigative practices in wartime, such as remote testimony and alternative evidence collection, and the gap in legal protections during conflict.

Recommendations include adopting tailored investigative approaches, strengthening legal safeguards for victims, and providing specialized training for law enforcement to handle wartime crimes effectively.

By addressing these issues, Ukraine can improve its criminal justice system in wartime, ensuring justice for victims and maintaining public trust in legal processes even amidst conflict.

Keywords: praxeology, criminal law and procedure, criminalistics, criminal offenses against liberty, honor, and dignity of a person, principles of criminal investigation.

правові норми, процедурні аспекти та поточні проблеми захисту прав особи під час конфлікту, зосереджуючись на труднощах виявлення, розслідування та доказування таких злочинів.

Дослідження використовує порівняльний аналіз законодавчої бази України з міжнародними стандартами, емпіричне дослідження для виявлення практичних проблем та аналіз правової політики, щоб запропонувати вдосконалення.

Основні висновки включають потребу в спеціалізованих методах розслідування у воєнний час, таких як дистанційне свідчення та альтернативний збір доказів, а також прогалину в правовому захисті під час конфлікту.

Рекомендації включають застосування індивідуальних підходів до розслідування, посилення правових гарантій для жертв і забезпечення спеціалізованої підготовки правоохоронних органів для ефективного розгляду злочинів військового часу.

Вирішуючи ці проблеми, Україна може покращити свою систему кримінального правосуддя під час війни, забезпечуючи правосуддя для жертв і зберігаючи довіру суспільства до судових процесів навіть під час конфлікту.

Ключові слова: праксеологія, кримінальне право та процес, криміналістика, кримінальні правопорушення проти волі, честі та гідності особи, засади розслідування кримінальних правопорушень.

Introduction

The protection of human rights and fundamental freedoms is a fundamental responsibility of the state. Among these, the rights to human dignity and personal liberty hold particular significance, as enshrined in Articles 28 and 29 of the Constitution of Ukraine (Law No. 254k/96-VR, 1996). These rights underpin the broader system of human rights, serving as prerequisites for realizing other freedoms. Human dignity forms the foundation of modern human rights, intricately linked to honor, which encompasses reputation, authority, and a good name. The Constitution of Ukraine (Article 3) acknowledges both dignity and honor as paramount social values. Additionally, personal liberty, an inherent human characteristic, ensures individuality and societal progress.

Effective protection of liberty, honor, and dignity is crucial in the context of criminal justice. Such protection necessitates an understanding of the essence of these rights, their importance for individuals and society, and the nuances of their violation and legal defense. This study focuses on analyzing the legislative framework, identifying challenges, and proposing effective methods for investigating criminal offenses against these rights in Ukraine.

The research examines criminal law and procedural relations during investigations, focusing on theoretical foundations, legal norms, and praxeological aspects. Key objectives include analyzing Ukrainian legislation, exploring praxeological approaches, and addressing challenges in criminal investigations.

Let's consider the key definitions related to the research topic.

Praxeology: Examines the efficiency of law enforcement activities (Polishchuk, 2014).

Criminal Law: Defines crimes, punishments, and safeguards societal and individual rights (Stashis & Tatsiy, 2010).

Criminal Procedure: Regulates investigative and trial processes (Stashis & Tatsiy, 2010).

Forensic Science: Develops methods for crime detection and investigation (Stashis & Tatsiy, 2010).

Criminal Offenses: Violations against liberty, honor, or dignity, such as illegal detention, torture, and defamation.

These definitions reflect the main concepts in criminal law and procedure related to investigating offenses against liberty, honor, and dignity.

The article is organized into four interconnected sections to provide a structured and comprehensive examination of the subject matter. Each section builds upon the previous, moving from foundational concepts to practical recommendations, ensuring a coherent flow of analysis and insights.

Theoretical Framework: This section outlines the core concepts and definitions that underpin the study. It explains the significance of human dignity, honor, and liberty in the Ukrainian constitutional and legal context. Key terms such as praxeology, criminal law, criminal procedure, forensic science, and the principles of investigating criminal offenses are defined and contextualized. This part establishes the conceptual basis for understanding the nuances of offenses against these rights.

Methodology: Here, the article describes the research methods employed to achieve its objectives. It utilizes comparative analysis, legal policy examination, and empirical research to investigate the legislative framework, challenges, and investigative techniques related to offenses against dignity, honor, and liberty. The methodology ensures a rigorous and systematic approach to the study, supporting the reliability of the findings.

Results and Discussion: This section presents the key findings, highlighting the current legislative strengths and gaps in Ukraine's legal system. It examines the challenges faced during the investigation of these offenses, such as procedural inefficiencies, evidentiary difficulties, and the complexities of applying theoretical principles in practice. The discussion also explores the broader implications of these findings for victims' rights and law enforcement efficiency.

Conclusions: The final section synthesizes the findings and offers actionable recommendations. It emphasizes the need for legislative reform, the adoption of praxeological principles, and enhanced training for law enforcement personnel to improve the investigation and prevention of offenses. This section underscores the importance of aligning Ukraine's legal practices with international standards to ensure robust protection of human rights.

The structure facilitates a systematic exploration of the theoretical, legal, and practical dimensions of the topic, culminating in clear conclusions and policy recommendations to address the identified challenges.

Theoretical Framework or Literature Review

The literature addressing the criminal law protection of honor, dignity, and personal freedom emphasizes the importance of these concepts in both historical and contemporary contexts. Alieva (2021) provides a comprehensive examination of the historical development and modern understanding of honor and dignity. The author traces their evolution from ancient societal values to their recognition as essential human rights, embedded in legal frameworks. Dignity, as a fundamental basis for other human rights, is distinguished from honor, which relates to reputation and societal recognition. Alieva underscores the need for legislative improvements to address challenges posed by technological advancements and information society dynamics.

Andrushko (2020) advances this discussion by exploring a multifaceted approach to crime prevention and victim protection. The author advocates for combining legal, organizational, socio-psychological, and educational measures to prevent offenses against freedom, honor, and dignity. Innovative techniques, such as artificial intelligence and data analytics, are proposed to enhance investigative practices. These insights

highlight the necessity of interagency coordination and adherence to international standards for effective protection of personal rights.

Borisov (2018) and Voznyuk (2021) delve into the classification and criminological aspects of offenses. Borisov categorizes crimes against personal freedom (e.g., kidnapping), honor (e.g., defamation), and dignity (e.g., acts of degradation). Voznyuk emphasizes the sociocultural and psychological underpinnings of such crimes, suggesting targeted prevention strategies and public legal education as critical measures.

Hryshchuk (2020) and Zavidnyak (2019) focus on systemic challenges in law enforcement. Hryshchuk discusses the interplay between social conditions and the enforcement of norms protecting dignity and personal security, recommending enhanced training for law enforcement personnel. Zavidnyak examines resistance strategies used by offenders, particularly in cybercrime, and calls for improved technological capabilities and interagency collaboration.

Further, Pletenets (2020) and Pchelina & Nevyadovskyi (2023) highlight practical challenges in pre-trial investigations. Pletenets identifies various forms of resistance to investigations, while Pchelina & Nevyadovskyi examine high-profile cases, emphasizing the role of media scrutiny and public interest in shaping investigative outcomes. Both works stress the importance of clear investigative protocols and mechanisms to ensure objectivity.

Historical perspectives also enrich the discourse. Fast (2020) examines the medieval roots of honor and dignity, noting their influence on contemporary legal frameworks. Meanwhile, Ward (2009) and Tonry (2018) discuss human dignity within penitentiary and penal contexts, advocating for reforms that align punishment with principles of humanity and rehabilitation.

Volkova, Prytuliak, Yanitska, Poliuk, & Polunina, O. (2023) research the issue of investigating crimes against freedom, honor, and dignity in Ukraine involving children. The authors examine the practice of the ECHR on this issue.

A number of aspects related to the investigation of crimes against freedom, honor and dignity of the person in wartime are researched by Shulha, Tkach, Murzo, Horodetska, & Sokur (2023) in their article «Forensic information sources during the investigation of war crime».

Finally, Franks (2018) evaluates government policies in criminal justice, highlighting the significance of comprehensive approaches that balance punitive and rehabilitative strategies. The work underscores the role of long-term, outcome-oriented policies in reducing recidivism and promoting social justice.

These studies collectively underscore the multidimensional nature of protecting freedom, honor, and dignity. Key research trends include integrating human rights into criminal law, refining investigative procedures, enhancing interagency cooperation, and adapting legal frameworks to contemporary challenges. The review also identifies the critical need for legislative reforms, victim support mechanisms, and advanced investigative technologies to address these pressing issues.

Methodology

This study employs three key methodological approaches – comparative analysis, empirical research, and legal policy analysis – to explore the theoretical and practical dimensions of investigating criminal offenses against freedom, honor, and dignity, particularly in wartime Ukraine. Each method was carefully selected to address specific research objectives, and their application is detailed below.

Comparative Analysis

The comparative analysis involved examining investigation procedures, legal frameworks, and human rights protections across different jurisdictions. The study compared Ukraine's practices with those of countries experienced in managing criminal investigations during armed conflicts, such as Bosnia and Herzegovina and Rwanda. This included analyzing international conventions, judicial practices, and procedural norms that align with global standards for victim and witness protection.

Specific cases from international tribunals and domestic courts were reviewed to understand how procedural adaptations enhance effectiveness. The research focused on identifying best practices in preserving evidence, ensuring due process, and safeguarding vulnerable parties during investigations in conflict zones.

Comparative analysis was chosen to highlight Ukraine's strengths and weaknesses relative to international benchmarks. By identifying proven methods from other countries, this approach offers practical recommendations for legislative and procedural reform. The findings revealed gaps in Ukrainian practices, such as insufficient witness protection measures, and pointed to adaptable solutions from international contexts.

Empirical Research

Empirical research collected and analyzed data from real-world instances of investigating crimes against freedom, honor, and dignity. This involved reviewing case files from ongoing investigations during wartime, conducting structured interviews with investigators, and analyzing statistical data on investigation outcomes.

Techniques:

Case Analysis: Selected cases were reviewed to identify patterns in investigative challenges, including limited access to crime scenes, loss of physical evidence, and witness intimidation.

Surveys: Surveys were conducted with investigators, forensic experts, and prosecutors to gather qualitative data on their experiences and perceptions of investigative challenges. The survey focused on their readiness to use modern tools and handle cases under wartime conditions.

Data Interpretation: Statistical tools were employed to analyze trends in case outcomes, such as the rate of solved cases and the effectiveness of victim support mechanisms.

Empirical methods provided a data-driven foundation for evaluating current practices. This approach was crucial for identifying systemic issues such as inadequate investigator training and insufficient use of digital tools. These insights underscored the need for targeted training programs and the integration of advanced investigative technologies.

Legal Policy Analysis

Legal policy analysis focused on evaluating the legal norms and policies governing the investigation of crimes against personal rights in Ukraine. This included a detailed review of Ukrainian criminal codes, procedural laws, and subordinate acts. International legal standards and their implementation in Ukraine were also analyzed.

Techniques:

Document Review: Legislation, judicial rulings, and policy documents were systematically analyzed to assess their relevance and effectiveness.

Policy Assessment: Existing programs for victim and witness protection during wartime were evaluated against international standards such as those outlined in the Geneva Conventions and the Rome Statute.

Gap Analysis: Shortcomings in procedural standards, particularly concerning wartime investigations, were identified.

Legal policy analysis was essential for understanding the structural and regulatory context of criminal investigations in Ukraine. This method highlighted discrepancies between domestic laws and international norms, particularly in protecting victims and witnesses during conflict. The findings emphasized the need for legislative amendments to address these gaps and improve compliance with global human rights standards.

Integration of Methods

The combination of these methods allowed for a holistic analysis of the challenges and opportunities in investigating crimes against freedom, honor, and dignity during wartime. By linking theoretical insights with practical observations, the study produced evidence-based recommendations for reform.

Results and Discussion

Before examining the theoretical and praxeological foundations of investigating criminal offenses against personal liberty, honor, and dignity in Ukraine, let us first take a closer look at the legal framework.

The Criminal Code of Ukraine defines and classifies criminal offenses against personal liberty, honor, and dignity. For instance, Articles 146 (illegal deprivation of liberty), 147 (torture), and 156 (committing sexual violence) outline various forms of violations of individual rights (Law No. 2341-III, 2001).

The Criminal Procedure Code of Ukraine (CPCU) regulates the procedures for collecting and evaluating evidence, conducting investigative actions, and ensuring the rights of the parties. For example, the CPCU outlines procedures for the interrogation of victims and witnesses, conducting searches and seizures, as well as collecting other evidence necessary for investigation (Law No. 4651-VI, 2012).

Article 8 of the Rome Statute of the International Criminal Court (ICC) defines "outrages upon personal dignity, particularly humiliating treatment" as a war crime falling under the jurisdiction of the ICC (United Nations, 1998). The wording of this article coincides with Article 3(1)(c), which is common to the four Geneva Conventions of 1949 (United Nations, 1949).

In August 2024, Ukraine ratified the Rome Statute with reservations, and therefore this interpretation will apply to Ukraine as well (Law No. 3909-IX, 2024).

Outrage upon personal dignity is defined as particularly severe forms of inhumane treatment that cause "more serious suffering than most prohibited acts falling into this category." To be considered an outrage upon personal dignity, actions or inactions must result in serious humiliation or degradation of the victim. Since the degree of humiliation or degradation is subjective (as sensitive individuals may perceive treatment as more degrading), it is simultaneously stated that "the humiliation must be so intense that a reasonable person would be outraged" (European Union, 2018).

Regarding the subjective aspect of the crime, "the crime of outrage upon personal dignity requires that the accused be aware that their actions or inaction could lead to serious humiliation, degradation, or otherwise seriously violate human dignity." Thus, "the accused must have been aware that their actions or inaction could have such consequences," emphasizing that the crime only requires knowledge of the "possible consequences of the alleged actions or inactions" (European Union, 2018).

Thus, the elements of the crime retain a subjective aspect, allowing for the consideration of humiliation, degradation, or violation of dignity caused by cultural or religious characteristics as an outrage upon personal dignity. This is possible even in cases where the same act would not be considered an outrage upon dignity if directed at another individual. In such situations, the objective element will be met if it is proven that the specific act would be "universally recognized" as an outrage upon personal dignity concerning an individual belonging to a particular cultural or religious group.

Regarding the intent standard, the elements of the crime under Article 8(2)(b)(xxi) (United Nations, 1998) do not define it clearly. Therefore, the general mental element set forth in Article 30 of the Rome Statute applies, which requires that the accused intended to commit the relevant act and was aware that this act could humiliate, degrade, or violate the dignity of the victim.

Post-World War II case law includes two significant cases illustrating violations of human dignity.

The first is the *Chuichi and Others* case, an example where the cultural background of the victims was taken into account as grounds for convicting the accused of mistreatment of Indian Sikh prisoners of war. In addition to physical violence, the prisoners' hair and beards were cut off, and one of them was forced to

smoke a cigarette, which is forbidden by their religion (Tanaka, Chuichi and Others, Australian Military Court, Rabaul, 12 July 1946 (Eurojust, 2018)).

The second case is the Schmid trial, where the accused, a German medic, was convicted for mistreatment of the body of a deceased American serviceman. He cut off the serviceman's head, boiled it, removed the skin and flesh, and kept the bleached skull on his desk for several months (Worldcourts, 1947).

These cases today would likely be considered violations of the prohibition on outrage upon personal dignity, which is protected under international humanitarian law. At the same time, these cases are particularly relevant in the context of Russian aggression on Ukrainian territory, where numerous instances of humiliation and violations of rights have been reported.

The ICC and other tribunals have also demonstrated that certain unlawful acts can fall under multiple charges, including outrages upon personal dignity. For example, rapes and sexual assaults on victims in the presence of soldiers who observed and laughed caused "severe physical and mental suffering, as well as public humiliation," and therefore constituted violations of their personal dignity and sexual integrity.

Similarly, the conditions in which prisoners were held violated their dignity. They were forced to perform subservient acts emphasizing the captors' dominance, relieve themselves in their clothes, and constantly lived under the threat of physical, mental, or sexual violence in the camp (European Union, 2018).

At the same time, in Ukraine, the issue of criminal liability for offenses against personal liberty, honor, and dignity has not been sufficiently studied, and there are relatively few cases of this type.

To address problematic issues, we will consider court practice, specifically the positions of the Criminal Cassation Court of the Supreme Court (CCC SC) regarding criminal offenses against personal liberty, honor, and dignity:

- The CCC SC clarified the conditions and grounds for releasing a person from criminal liability for actions provided for in part 1 of Article 309 of the Criminal Code of Ukraine (Law No. 2341-III, 2001), particularly in situations where the accused may be exempted from punishment under certain conditions.
- The court determined that the concept of a "vulnerable state of the person," which is a characteristic of human trafficking, should take into account the victim's cultural and individual characteristics. Expert testimony is not always required to establish such a state if other evidence confirms its existence (Supreme Court, 2022).
- The CCC SC confirmed that the systematic distribution of pornographic video files through file-sharing programs on the Internet falls under the qualification of Article 301 of the Criminal Code of Ukraine if such distribution is systematic and violates the law (Law No. 2341-III, 2001).

From the Resolution of the Plenary Session of the Supreme Court of Ukraine dated February 27, 2009, No. 1 "On the Practice of Applying Legislation by Courts in Cases of Protection of the Honor and Dignity of an Individual, as Well as the Business Reputation of Individuals and Legal Entities," it is clear that to file a lawsuit for the protection of honor, dignity, or business reputation, it is necessary to prove the fact of dissemination of false or defamatory information that humiliates the dignity of the plaintiff or harms their reputation. It is important that such information has been communicated to a broad audience and had a negative impact on the plaintiff. It has been established that the burden of proof lies with the plaintiff. To do this, the plaintiff must provide the court with evidence that confirms the dissemination of the information, its false or defamatory nature, as well as prove that such information caused harm to their honor, dignity, or business reputation. The court noted that in determining the amount of damages caused by violations of honor, dignity, or business reputation, both material and moral losses of the plaintiff should be taken into account. The issue of compensation should be based on the results of the court proceedings and the evaluation of evidence. The Plenary Session emphasized that special attention should be paid to cases where information is disseminated through media or other public channels. Violations of an individual's rights in such cases can have widespread consequences and require careful consideration. It is recommended to adhere to clear procedural norms when filing lawsuits and considering cases. Judicial bodies should ensure an objective and comprehensive review to guarantee fairness in the protection of the plaintiff's rights (Resolution No. 1, 2009).

Pchelina and Nevyadovsky (2023) rightly note that the circumstances to be clarified are a key element of specific forensic methodology, particularly in the investigation of high-profile crimes against personal liberty, honor, and dignity. The forensic significance of these circumstances lies in the fact that criminal proceedings serve as a plan of action for authorized persons aimed at gathering credible, sufficient, admissible, and relevant evidence.

Let us examine in more detail the theoretical foundations of investigating crimes against personal liberty, honor, and dignity in Ukraine.

The investigation of crimes against personal liberty, honor, and dignity is based on key theoretical principles, which include:

1. Principle of the Rule of Law: Ensuring the protection of human rights is a key theoretical basis for investigating crimes against personal liberty, honor, and dignity. All actions of investigative bodies must comply with national and international standards for human rights protection, which includes due legal process, the presumption of innocence, and protection of victims' rights.
2. Humanism and Respect for the Individual: Investigations should be based on principles of humanism and respect for the dignity of all participants in the process, including suspects, victims, and witnesses. This approach requires ethical treatment, minimizing the psychological trauma of victims, and ensuring their rights (Alieva, 2021).
3. Principle of Objectivity and Comprehensive Examination: Investigations should be conducted impartially, with a thorough examination of all circumstances of the case, taking into account both aggravating and mitigating factors; all available methods and tools for gathering evidence should be utilized, including modern technologies and scientific approaches.
4. Right to a Fair Trial: Ensuring the right to effective legal remedies, access to legal assistance, and fair judicial proceedings are mandatory conditions for investigations.
5. Adaptation of Legal Norms: In wartime conditions, it is essential to adapt criminal legislation and procedures to the realities of war, ensuring effective application of norms related to the investigation of crimes against the personal rights of citizens.
6. International Standards: Investigations must comply with international standards, particularly those defined by the European Court of Human Rights, which emphasizes the necessity of effective, impartial, and prompt investigations of human rights violations.

The praxeological approach in the investigation of crimes against the freedom, honor, and dignity of a person involves optimizing resource use and applying effective methods in investigative activities. In wartime conditions, this approach becomes particularly significant:

Adaptation of investigation methods (military actions significantly affect the possibility of conducting investigations. For example, limited access to the crime scene, danger to investigators and witnesses, and the inability to preserve evidence. In these circumstances, it is important to implement new methods, such as remote interrogations and the use of technologies for collecting and analyzing data that were previously unavailable).

Expansion of tools (the use of modern technical means, including drones, satellite imagery, digital technologies for recording evidence, and other cutting-edge technologies that can compensate for the physical inaccessibility of objects and evidence).

Psychological training of investigators (war conditions require investigators to possess not only professional knowledge but also psychological resilience. Specialized training in stress management and working in extreme conditions is essential for ensuring the effective performance of investigative functions).

Victim-Centric Approach (paying special attention to ensuring the rights and needs of victims, including their physical and psychological safety).

Ensuring access to medical, psychological, and social support during the investigation and trial process.

The research has identified several challenges facing the system of investigating crimes against the freedom, honor, and dignity of a person in wartime conditions:

- Lack of resources;
- Threats to witnesses and victims;
- Documentation of war crimes (Pletenets, 2020).

The results of the study highlight significant gaps and challenges in the investigation of criminal offenses against personal liberty, honor, and dignity in Ukraine, especially during wartime. These findings align with and build upon existing literature on the complexities of ensuring human rights and justice under extraordinary conditions.

Legal Framework and International Standards

The analysis of Ukraine's legal framework reveals that while these laws establish foundational definitions and processes, they often lack provisions for adapting to wartime conditions. This observation is consistent with the findings of Pletenets (2020), who emphasized that legal systems often falter in addressing crimes against dignity during armed conflicts due to procedural rigidity and insufficient resources.

International humanitarian law provides a comparative benchmark for evaluating Ukraine's legal standards. The study confirms that Ukraine's ratification of the Rome Statute (Law No. 3909-IX, 2024) marks a step forward, yet its implementation remains incomplete. As noted by Eurojust (2018), the proper application of international norms requires not only legislative alignment but also judicial and investigative competence, which remains underdeveloped in Ukraine's context.

Challenges in Investigative Practices

Empirical research conducted for this study corroborates previous findings on the obstacles investigators face in conflict zones. Limited access to evidence, threats to witnesses, and the psychological toll on investigators were highlighted as critical issues. For example, it is emphasized Eurojust (2018) that physical inaccessibility to crime scenes often necessitates reliance on technology, such as drones and satellite imagery, a recommendation echoed in this study's findings.

Moreover, the need for specialized training in stress management and advanced investigative techniques is supported by Alieva (2021), who argues that humanism and respect for individual dignity should guide investigations, especially in traumatic contexts. The study's recommendation for a victim-centric approach aligns with this principle, underscoring the importance of safeguarding victims' psychological and physical well-being throughout the investigative process.

Judicial Interpretations and Case Studies

The study's analysis of judicial interpretations by the Criminal Cassation Court of the Supreme Court (CCC SC) demonstrates progress in clarifying legal ambiguities, such as the concept of "vulnerable state of the person" and the requirements for proving harm to dignity. These insights are consistent with Pchelina & Nevyadovsky (2023), who argue that judicial decisions play a pivotal role in shaping forensic methodologies and ensuring justice in complex cases.

Historical case law provides a broader context for understanding the cultural and subjective dimensions of dignity violations. These cases illustrate how international standards can inform domestic judicial practices, a connection that Ukraine has yet to fully leverage. The study's findings suggest that integrating such precedents into Ukrainian jurisprudence could enhance the consistency and fairness of investigations.

Theoretical and Praxeological Foundations

The study also delves into the theoretical principles underpinning the investigation of crimes against personal dignity, such as the rule of law, humanism, and objectivity. These principles, as outlined by Alieva (2021), serve as a moral and procedural guide for ensuring fairness and respect in investigations. However, wartime conditions necessitate adaptations, such as the use of remote technologies and flexible procedural standards, to address the unique challenges posed by conflict.

The praxeological approach, which prioritizes resource optimization and practical effectiveness, emerges as a critical strategy. This approach's emphasis on modern technologies and specialized training aligns with

the recommendations of Pletenets (2020), who highlights the importance of innovative methodologies in overcoming wartime investigative hurdles.

Connection to Literature Review

The study's results reinforce key themes from the literature review, including the necessity of adapting legal and investigative frameworks to wartime realities. The integration of international standards, as advocated by United Nations (1998) and Eurojust (2018), is essential for aligning Ukraine's practices with global human rights norms. Similarly, the emphasis on a victim-centric and humanistic approach echoes the findings of Alieva (2021) and underscores the moral imperative of protecting individual dignity in the face of systemic challenges.

Conclusion

The study's findings underline both the achievements and the critical challenges facing the investigation of crimes against the freedom, honor, and dignity of individuals in Ukraine, particularly in the context of martial law. The research not only confirms the need for legislative improvements but also emphasizes the practical steps required to address current deficiencies in the investigation processes. These findings are critical for guiding both legal reforms and law enforcement practices.

Legislative Framework and Practical Implications

Regarding the first task, the analysis of the existing Ukrainian legal framework reveals both positive aspects and areas that urgently require reform. The provisions of the Criminal Code of Ukraine (CCU) and the Criminal Procedure Code of Ukraine (CPCU), while essential for defining and regulating crimes against personal liberty, honor, and dignity, fail to fully address the unique challenges posed by wartime circumstances. The study highlights that while these legal instruments are foundational, they need substantial improvements to enhance investigative effectiveness and victim protection. This gap is particularly evident in the context of martial law, which exacerbates existing challenges, such as limited access to crime scenes, and creates additional barriers to collecting evidence and prosecuting offenders. The practical implication here is clear: reforms should not only refine existing legal norms but also introduce new provisions tailored to the realities of conflict and societal instability, including more specific protections for victims in wartime situations (Pletenets, 2020; Eurojust, 2018).

The recommendation for practical measures to enhance law enforcement capabilities is aligned with calls from international bodies like Eurojust (2018), which emphasize that effective legal frameworks must be supported by capacity-building initiatives within investigative agencies. Training law enforcement officials on specialized investigative techniques and ensuring closer cooperation between different institutions, including police, social services, and medical institutions, will be key in improving the effectiveness of investigations. Further, aligning domestic procedures with international standards, such as the Rome Statute (1998) and Geneva Conventions (1949), can enhance the consistency and fairness of investigations, particularly in cases of war crimes (United Nations, 1998).

Theoretical Foundations and Praxeological Approaches

The second task, based on empirical research, stresses the importance of integrating theoretical knowledge with practical methodologies to address the complexities of crimes against dignity. The study reveals that many of these crimes remain unresolved, largely due to difficulties in proving intent, especially when dealing with crimes that involve psychological harm and humiliation. This observation supports the views of Alieva (2021), who argues that while legal frameworks provide essential guidance, practical and psychological approaches must be incorporated to ensure that the nuances of dignity violations are fully understood and addressed in investigations.

Additionally, the research highlights the significant role of praxeological approaches, which emphasize resource optimization and the application of effective, real-world investigative strategies. The study's conclusion that specialization is crucial within law enforcement agencies directly reflects the findings of Pletenets (2020), who discusses how investigators in conflict zones require not only knowledge of the law but also technical skills and psychological expertise. By integrating theoretical foundations with practical approaches, investigators can more effectively address the multifaceted challenges involved in such cases.

Legal Ambiguities and Technological Challenges

One of the most significant findings of the study is the difficulty in proving intent, particularly in cases that involve psychological trauma or violations of dignity. As evidenced by both case law and scholarly research (Pchelina & Nevyadovsky, 2023), legal ambiguity – such as inconsistent interpretations of "humiliation" or "psychological harm"—can lead to variations in how cases are handled. The lack of modern evidence-gathering methods, such as digital forensics for online crimes, also complicates investigations, particularly as crimes involving social media and messaging services become more prevalent (Eurojust, 2018).

Under martial law, these challenges are magnified as societal instability makes it harder to ensure consistency in legal interpretations. The increase in war crimes during such times often involves violations of personal dignity that are both severe and complex, requiring specialized investigative methods and tools. The research indicates that incorporating modern technologies like drones and satellite imagery can play a pivotal role in collecting evidence in conflict zones, thereby improving the quality of investigations (Eurojust, 2018).

Challenges Under Martial Law

Martial law, as discussed in the study, has a multiplier effect on the difficulties faced by law enforcement in investigating these offenses. The compounded challenges—such as resource scarcity, emotional and psychological strain on investigators, and heightened societal tensions—necessitate new approaches to investigative procedures. The use of modern technologies for evidence collection in combat zones and the integration of international cooperation, as noted by Eurojust (2018), will be essential to navigating the complex environment that martial law creates. Such strategies could include increasing the capacity for cross-border investigations and ensuring that international human rights standards are upheld in domestic proceedings.

Directions for Future Research

Building on the insights from this study, future research should focus on the specific challenges that arise during the investigation of crimes against dignity under martial law. Investigating the interaction between legal interpretations, technological innovations, and victim protection strategies will be crucial for refining investigative practices. Further studies could explore how Ukraine's law enforcement agencies can better adapt to the evolving nature of these crimes, particularly as they intersect with new technologies and digital platforms.

Moreover, comprehensive research into international cooperation on war crimes investigations, including the role of entities like the International Criminal Court and Eurojust, will provide valuable insights into how cross-border legal frameworks can be more effectively applied to local contexts during wartime. This direction not only promises to enhance practical investigative approaches but also contributes to the broader field of international criminal law.

The study's findings underscore the urgent need for legislative reforms, practical enhancements in law enforcement training, and integration of modern investigative technologies to improve the investigation of crimes against personal dignity in Ukraine. The challenges posed by martial law and the increasing complexity of such crimes require a multi-faceted response, including theoretical and practical adjustments. By addressing these gaps, Ukraine can strengthen its justice system, enhance the protection of victims, and ensure that investigations align with international human rights standards, particularly in times of war.

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Protecting children in criminal justice: a comparative analysis of legal frameworks and best practices

Cinayət prosesində uşaqların müdafiəsi: hüquqi bazanın və qabaqcıl təcrübələrin müqayisəli təhlili

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Abstract

The article examines the evolution of criminal law protections for minors. Focusing on Central and Eastern Europe, with implications for Azerbaijan, it highlights the impact of historical trends, including the socialist era, on legal frameworks and policies for juvenile offenders and victims. Main purpose of the paper is to analyze the historical and modern mechanisms of protecting minors' rights within the criminal justice system, with an emphasis on aligning national practices with international legal standards. The object of the article is the system of criminal law protection for minors in Central and Eastern European countries, including Azerbaijan. The subject of the article is legal norms, historical trends, and practical measures influencing the protection of juvenile offenders and victims in the criminal justice system. Key findings include: 1. Historical and Ideological Influences: The Soviet era shaped a shared ideological approach to juvenile justice, emphasizing parental rights and educational methods. Political changes often necessitated stricter policies and revisions to address societal challenges. 2. International Legal Standards: Modern international norms have introduced alternative sanctions and public measures to improve juvenile justice systems, promoting alignment with best European practices. 3. Azerbaijan's Integration: As a former socialist state, Azerbaijan can benefit from examining shared historical trends while adhering to contemporary international legal standards to enhance minors' rights protections and integrate into the global legal community. The study employs comparative legal, historical legal, policy

mücrərrəd

Məqalədə yetkinlik yaşına çatmayanların cinayət hüququ müdafiəsinin təkamülü araşdırılır. Azərbaycan üçün təsirləri ilə Mərkəzi və Şərqi Avropaya diqqət yetirərək, o, sosializm dövrü də daxil olmaqla, tarixi tendensiyaların yetkinlik yaşına çatmayan cinayətkarlar və qurbanlar üçün hüquqi çərçivələrə və siyasətlərə təsirini vurğulayır. Məqalənin əsas məqsədi milli təcrübənin beynəlxalq hüquqi standartlara uyğunlaşdırılmasında diqqət yetirməklə cinayət ədliyyəsi sistemində yetkinlik yaşına çatmayanların hüquqlarının müdafiəsinin tarixi və müasir mexanizmlərini təhlil etməkdir. Məqalənin obyektə Mərkəzi və Şərqi Avropa ölkələrində, o cümlədən Azərbaycanda yetkinlik yaşına çatmayanların cinayət-hüquqi müdafiəsi sistemidir. Məqalənin mövzusu cinayət ədliyyə sistemində yetkinlik yaşına çatmayan cinayətkarların və qurbanların müdafiəsinə təsir göstərən hüquqi normalar, tarixi tendensiyalar və praktiki tədbirlərdir. Əsas nəticələrə aşağıdakılar daxildir: 1. Tarixi və İdeoloji Təsirlər: Sovet dövründə valideyn hüquqlarını və təhsil metodlarını vurğulayan yetkinlik yaşına çatmayanların ədalət mühakiməsinə ümumi ideoloji yanaşma formalaşdırıldı. Siyasi dəyişikliklər çox vaxt sosial problemlərin həlli üçün daha sərt siyasətlər və dəyişiklikləri tələb edirdi. 2. Beynəlxalq Hüquq Standartları: Müasir beynəlxalq normalar ən yaxşı Avropa təcrübələrinə uyğunlaşmanı təşviq edərək, yetkinlik yaşına çatmayanların ədalət mühakiməsi sistemlərini təkmilləşdirmək üçün alternativ sanksiyalar və ictimai tədbirlər təqdim etmişdir. 3. Azərbaycanın İnteqrasiyası: Keçmiş sosialist dövləti kimi Azərbaycan yetkinlik yaşına çatmayanların hüquqlarının müdafiəsini

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analysis, and case study methods to assess the effectiveness of legal frameworks and the practical application of juvenile rights protections.

Keywords: children's rights, legal regulation, criminal policy, juvenile justice, criminal policy instruments.

gücləndirmək və qlobal hüquqi birliyə inteqrasiya etmək üçün müasir beynəlxalq hüquqi standartlara riayət etməklə, ümumi tarixi tendensiyaları araşdırmaqdan faydalana bilər. Tədqiqat hüquqi bazaların effektivliyini və yetkinlik yaşına çatmayanların hüquqlarının müdafiəsinin praktiki tətbiqini qiymətləndirmək üçün müqayisəli hüquqi, tarixi hüquqi, siyasi təhlil və nümunə tədqiqat metodlarından istifadə edir.

Açar sözlər: uşaq hüquqları, hüquqi tənzimləmə, cinayət siyasəti, yetkinlik yaşına çatmayanlara qarşı ədalət mühakiməsi, cinayət siyasətinin alətləri.

Introduction

Juvenile delinquency, a persistent social phenomenon, poses significant challenges in Azerbaijan, reflecting broader societal and systemic issues. Rooted in historical and socio-economic factors, this problem reveals the vulnerability of children and adolescents—a demographic that not only represents the nation's most at-risk group but also its most critical resource for future development. Ensuring the rights and freedoms of minors, especially those in conflict with the law, is essential for achieving social stability and sustainable progress.

Despite efforts by governmental and non-governmental organizations to address juvenile delinquency through socio-political and sociological measures, these interventions often fail to produce lasting results. Azerbaijan's experience underscores the urgent need for a comprehensive and multifaceted approach that combines legislative reform, law enforcement strategies, and socio-educational initiatives. This study argues that enhancing Azerbaijan's criminal law mechanisms to protect minors' rights is essential. Drawing on international best practices, it emphasizes adopting rehabilitative measures focused on re-socialization and alternative sanctions rather than punitive approaches.

Azerbaijan's socio-economic challenges, political transitions, and a decline in citizens' well-being have contributed to a rise in juvenile delinquency, exacerbating social tensions. Historical and systemic factors—ranging from socio-economic hardships to gaps in legal protections—have created a situation where children and adolescents face heightened risks. This research situates juvenile delinquency within Azerbaijan's broader historical and socio-legal context, exploring how these factors have shaped the country's response to protecting minors in conflict with the law.

By examining the interplay of legal, social, and educational frameworks, this study provides a comprehensive analysis of how Azerbaijan can better safeguard minors' rights. It argues that the country must strengthen its criminal law mechanisms by integrating lessons from Central and Eastern European nations while tailoring these insights to Azerbaijan's unique socio-political context.

This study aims to:

1. Examine the legal framework for protecting minors' rights at national and international levels.
2. Assess the practical application of criminal law norms concerning minors in Azerbaijan.
3. Compare Azerbaijan's juvenile justice system with those of Central and Eastern European countries to identify adaptable best practices.
4. Offer recommendations for strengthening Azerbaijan's criminal law system to enhance protections for minors.

Theoretical and conceptual framework

Juvenile justice systems have evolved significantly, particularly in Central and Eastern Europe, where historical authoritarian influences have shifted toward EU-aligned, rights-based approaches. This research reviews key international and national legal frameworks governing minors' rights, including the UN Convention on the Rights of the Child (CRC) and EU directives.

Key concepts such as re-socialization and alternative punishments form the foundation of this study. Re-socialization emphasizes reintegrating minors into society through education and therapy, while alternative punishments—like community service or family-based interventions—offer non-custodial solutions that prioritize rehabilitation over retribution.

Methodology

The article employs a multidisciplinary research approach, using comparative legal, historical legal, policy analysis, and case study methods. These tools facilitate an in-depth exploration of Azerbaijan's juvenile justice system while drawing comparisons with practices in other Central and Eastern European countries. This methodological diversity ensures a thorough exploration of Azerbaijan's juvenile justice system while providing actionable insights for reform.

Results and Discussion

This section presents the findings on the effectiveness of Azerbaijan's legal framework for protecting minors, identifying gaps and challenges in the practical application of criminal law norms. It discusses the influence of socio-political and economic factors on juvenile delinquency and evaluates alternative approaches, such as rehabilitation and community-based sanctions, through comparative analysis with European practices. The study identifies significant gaps in Azerbaijan's legal framework for protecting minors in conflict with the law. While national laws reference international standards, their practical implementation often falls short. Socio-political and economic factors, including limited resources and weak institutional capacity, exacerbate these challenges. The research highlights the importance of prioritizing re-socialization and alternative sanctions over punitive measures. Community-based approaches, including probation and family conferencing, have proven effective in reducing recidivism and supporting the reintegration of minors into society. Such measures align with Azerbaijan's broader goals of social stability and sustainable development.

Conclusions

The article concludes by summarizing the key insights and offering practical recommendations for improving Azerbaijan's juvenile justice system. It emphasizes the importance of integrating international standards, strengthening legal protections, and prioritizing rehabilitative approaches to address the issue of juvenile delinquency effectively. This study contributes to global discussions on minors' rights while offering a roadmap for reforming Azerbaijan's juvenile justice system to ensure a safer and more just society for future generations.

Definitions of Key Terms used in the research:

Minor – According to the UN Convention on the Rights of the Child, a minor is a person under the age of 18 (United Nations General Assembly, 1989).

Protection of minors' rights – A set of measures aimed at ensuring the observance of minors' rights in criminal proceedings, including their right to a fair trial, legal aid, protection from abuse, the right to education, and re-socialization (United Nations General Assembly, 1989).

Alternative punishments – Measures applied instead of imprisonment, including probation, mediation, community service, and educational programs aimed at rehabilitating minors without isolating them from society.

Re-socialization – The process of returning a juvenile offender to normal social life through educational and rehabilitation measures that promote their reintegration into society after committing an offense (Council of Europe, Committee of Ministers, 1987).

Theoretical Framework or Literature Review

The literature reviewed underscores the central theme of balancing protection for minors with effective responses to juvenile delinquency, forming a basis for the argument that Azerbaijan must align its juvenile

justice system with evolving international standards. Critical analysis of the sources reveals several overarching trends and tensions that directly inform the study's focus.

Blicke (2023) underscores the complexities of defining an appropriate MACR, a cornerstone of juvenile justice reform. Her analysis situates MACR within the broader framework of international law, emphasizing child welfare and rehabilitation over punitive measures. The growing consensus among jurisdictions to raise MACR reflects a global shift toward prioritizing children's developmental needs and rights. For Azerbaijan, where punitive traditions remain entrenched, this resonates strongly with the study's argument for moving away from repressive practices. Aligning with the UN Convention on the Rights of the Child (CRC) and increasing MACR would signal a commitment to international standards while addressing systemic shortcomings in protecting vulnerable minors.

Critical to this discussion is Blicke's observation that raising MACR alone is insufficient without accompanying systemic reforms. For Azerbaijan, the practical implementation of such reforms is crucial to avoid simply deferring issues of juvenile accountability to later stages without resolving the underlying socio-economic factors contributing to delinquency.

Brown and Charles (2019) advocate for a comprehensive approach to juvenile justice, integrating principles of child development, restorative justice, and systemic interventions. Their research emphasizes that addressing the root causes of juvenile offending—such as socio-economic disadvantage, family instability, and community disintegration—is as important as legal reforms. The study highlights restorative practices and community-based solutions as effective alternatives to punitive models, offering insights directly applicable to Azerbaijan.

Azerbaijan's socio-economic challenges, including high rates of poverty and limited access to education in certain regions, align with Brown and Charles' emphasis on addressing systemic contributors to juvenile delinquency. Their critique of approaches overly reliant on age thresholds reinforces the need for Azerbaijan to adopt policies that not only reform MACR but also invest in rehabilitative and preventive measures. This underscores the necessity of shifting juvenile justice from punishment to rehabilitation, a central theme of the study.

O'Brien and Fitz-Gibbon (2017) present a critical case study on the inconsistent application of the *doli incapax* principle in Australia, revealing gaps in the protection of minors despite progressive legislative frameworks. Their findings highlight the dangers of fragmented or uneven enforcement of juvenile justice norms, a challenge also evident in Azerbaijan. While Azerbaijan has adopted legal provisions aligned with international conventions, their practical application often falters due to institutional weaknesses and a lack of trained personnel.

The authors' emphasis on ensuring uniformity in legal protections is particularly relevant for Azerbaijan. To bridge the gap between legislation and practice, systemic reforms must include capacity-building measures for law enforcement, judiciary officials, and social workers. This aligns with the study's argument for strengthening the enforcement mechanisms of Azerbaijan's juvenile justice system.

Janes (2008) explores the European shift from punitive measures to rehabilitative approaches, reflecting broader societal recognition of the socio-economic roots of juvenile crime. His research is particularly relevant for Azerbaijan, which shares historical and legal parallels with several Central and Eastern European countries transitioning from socialist regimes to EU-aligned standards. Janes argues that these rehabilitative approaches—emphasizing therapy, education, and community engagement—offer a model for integrating international conventions like the CRC into domestic policies. For Azerbaijan, Janes' findings suggest that adopting consistent European standards can address the disconnect between punitive traditions and modern child-centered justice principles. This perspective strengthens the study's argument that reforms must prioritize rehabilitation as a means to reduce recidivism and support minors' reintegration into society.

Samedova (2008, 2017, 2020) offers a nuanced analysis of Azerbaijan's juvenile justice system, connecting international trends to local challenges. Her work emphasizes the importance of humanizing the treatment of minors in conflict with the law, advocating for policies that reflect evolving global norms. Samedova's research also highlights socio-political barriers—such as limited public awareness and institutional resistance—that hinder the implementation of child-centered reforms in Azerbaijan.

Critically, Samedova draws attention to the socio-cultural context in Azerbaijan, where traditional values and economic hardship often undermine progressive legal norms. This aligns with the study's argument that reform efforts must be tailored to Azerbaijan's unique conditions, balancing international best practices with culturally sensitive strategies. Her findings also reinforce the need for robust socio-educational interventions to complement legal reforms, addressing the root causes of delinquency while fostering public support for rehabilitative approaches.

Reznik, Bondarenko, Utkina, Yanishevskaya, & Ilchenko (2022) state that it is essential and urgent to use the mediation procedure in the case of a juvenile committing a criminal offense or a felony more widely as an alternative to litigation. It is emphasized that the full implementation of this institution requires political will and broad support from civil society. Namely, his readiness to resolve disputes without a court, but only with the help of a mediator. For Azerbaijan, where traditional punitive measures often dominate juvenile justice, this perspective is particularly compelling. The study's argument aligns with Reznik et al.'s assertion that mediation fosters accountability and re-socialization, outcomes that punitive models often fail to achieve. However, a critical gap in the source is its limited exploration of how countries transitioning from authoritarian traditions—such as Azerbaijan—can overcome cultural and institutional barriers to adopt mediation. Addressing these challenges is crucial for ensuring that mediation is perceived not as leniency but as a constructive alternative that prioritizes the best interests of the child.

Volkova, Prytuliak, Yanitska, Poliuk, & Polunina (2023) analyzed the specific decisions of the ECtHR in the field of protection of children's rights, in particular those who committed crimes, summarized the main approaches, standards, and principles used by the ECtHR in solving relevant cases, as well as making their own proposals for improving the current legislation of Ukraine aimed at protecting children's rights. This analysis is particularly relevant for Azerbaijan, as ECtHR principles represent a benchmark for countries striving to align their legal systems with international human rights standards. However, Volkova et al. do not fully address the practical challenges of implementing these principles in jurisdictions with weak enforcement mechanisms and socio-political resistance to change. Azerbaijan's experience mirrors these challenges, as gaps in institutional capacity and judicial training often hinder the consistent application of child-centered legal norms. Strengthening the connection between ECtHR standards and Azerbaijan's context underscores the need for capacity-building initiatives and institutional reforms.

The reviewed literature collectively supports the thesis that Azerbaijan must reform its juvenile justice system to align with international norms and prioritize rehabilitative measures. However, the sources also reveal significant challenges. For instance, while Bliecke and Janes emphasize global trends, their reliance on soft law sources highlights the variability in international enforcement, which Azerbaijan must navigate carefully. Similarly, Brown and Charles' focus on social factors demands practical considerations of resource allocation in Azerbaijan's socio-economic context. Finally, O'Brien and Fitz-Gibbon's findings on *doli incapax* illustrate the risk of inconsistencies that could undermine reforms if not meticulously implemented.

By critically engaging with these sources, the study underscores the urgency and feasibility of transforming Azerbaijan's juvenile justice system into one that not only complies with international standards but also addresses the underlying causes of juvenile delinquency through a comprehensive, rehabilitative approach.

Methodology

The methodology employed in this study integrates four key methods – comparative legal, historical legal, policy analysis, and case study – to provide a multidimensional perspective on protecting minors' rights in criminal law. Each method contributes uniquely to understanding and addressing the issue.

1. Comparative Legal Method

The comparative legal method involves examining and contrasting legislative approaches to minors' rights protection across different jurisdictions. This method focuses on legal systems in Central and Eastern European countries influenced by socialist regimes, juxtaposed with Western European countries adhering to EU standards. The analysis identifies key legislative trends, such as the increasing adoption of less repressive approaches to juvenile justice. A trend toward harmonization with EU norms, particularly in adopting alternative sanctions like mediation and rehabilitation programs. Progressive practices in re-socialization, including education and therapy-focused sanctions, which could be tailored for

implementation in Azerbaijan. This method traces the gradual shift from punitive measures to rehabilitative and rights-based approaches across jurisdictions. For example, many CEE countries initially mirrored Azerbaijan's history of discipline-oriented juvenile systems but later embraced EU-driven reforms, such as mediation, rehabilitation, and community-based sanctions. Comparative analysis highlights the growing emphasis on non-punitive measures like mediation, counseling, and therapy programs. Western European systems, particularly those in Scandinavia, emphasize alternative sanctions over incarceration, showcasing their efficacy in reducing recidivism. The method evaluates how legal systems align with frameworks like the UN Convention on the Rights of the Child (CRC), emphasizing provisions such as proportional sentencing, procedural safeguards, and the right to education. By identifying transferable practices from other jurisdictions, the comparative legal method highlights how Azerbaijan can transition toward a rehabilitative juvenile justice system. For example, adopting EU-aligned measures such as mediation programs and education-focused sanctions can help address systemic gaps in minors' protection.

2. Historical Legal Method

The historical legal method examines the evolution of legal norms regarding juvenile offenders, offering context on how socio-political changes shape criminal law. The historical legal method examines the evolution of legal norms concerning juvenile offenders, offering a chronological understanding of how socio-political transformations shape criminal law. This approach contextualizes Azerbaijan's current juvenile justice challenges by tracing the legacy of its socialist past and post-independence reforms. During the socialist era, juvenile justice emphasized collective discipline, state control, and mandatory education as mechanisms for controlling delinquency. Punitive measures, including incarceration, were frequently used, reflecting the state-centric governance of the time. With the collapse of socialist regimes, many CEE countries experienced fragmented reforms due to socio-economic instability. These reforms often struggled to fully align with international standards, resulting in inconsistent protections for minors. Azerbaijan shares this transitional trajectory, where legal reforms exist but are undermined by weak enforcement and institutional inertia. Key agreements, such as the CRC, catalyzed a shift from control-based models to rights-focused systems emphasizing rehabilitation. By mapping the adoption of CRC principles across CEE countries, this method identifies milestones and barriers in juvenile justice reform. Understanding the historical progression of juvenile justice systems in comparable countries allows Azerbaijan to learn from their successes and challenges. For instance, countries like Poland and Hungary successfully transitioned to community-based rehabilitation, demonstrating the feasibility of similar reforms in Azerbaijan. The method identifies gaps in Azerbaijan's juvenile justice framework, such as limited access to rehabilitation programs and weak inter-agency coordination. Recommendations include developing comprehensive strategies that integrate social services and education into juvenile justice policies. This method traces changes in juvenile justice from the socialist era, characterized by collective control and state education, to the post-socialist period emphasizing international standards. It also evaluates the influence of key international agreements, such as the UN Convention on the Rights of the Child, on national legislative reforms. Socialist states prioritized discipline and control, while post-socialist reforms shifted toward rehabilitation and rights-based approaches. The transition period often resulted in fragmented reforms, reflecting broader socio-economic instability. Understanding this historical progression contextualizes Azerbaijan's challenges and opportunities in harmonizing its juvenile justice policies with modern international standards.

3. Policy Analysis Method

The policy analysis method examines the design and implementation of state policies on minors' rights in criminal law. This method scrutinizes Azerbaijan's legislative acts, government programs, and policy initiatives aimed at addressing juvenile delinquency. It assesses whether these measures prioritize re-socialization and rehabilitation over punitive approaches. Effective juvenile justice policies often involve collaboration among social services, education, and healthcare sectors. For example, Scandinavian countries successfully integrate these sectors to provide holistic support for juvenile offenders. The method evaluates national strategies, legislative acts, and programs aimed at juvenile offenders' re-socialization and rehabilitation. It also assesses international programs and their influence on national practices, particularly alternative sanctions. Cross-sectoral approaches involving social services, education, and health care are most effective in addressing juvenile delinquency. Comprehensive policies that prioritize re-socialization and rehabilitation over punitive measures have shown to reduce recidivism rates. This method identifies gaps in Azerbaijan's current juvenile policies and provides evidence-based recommendations for cross-sectoral collaboration to strengthen minors' rights protection.

4. Case Study Method

The case study method offers an in-depth analysis of individual criminal cases involving minors, providing practical insights into the application of legal norms. By analyzing detailed records of cases involving juvenile offenders, this method highlights procedural inconsistencies and systemic failures in protecting minors' rights. For example, common issues include inadequate access to legal aid and insufficient consideration of minors' psychological needs. Successful case studies often demonstrate the positive impact of restorative justice programs, such as mediation and community-based sanctions, in reducing recidivism and supporting re-socialization. Case studies reveal critical areas for improvement, such as the need for procedural safeguards during interrogations or trials. They also highlight the disparity between legal frameworks and their practical implementation. Detailed examination of case records highlights procedural inconsistencies and areas where minors' rights are not adequately protected. It evaluates the effectiveness of restorative justice practices and alternative sanctions in specific instances. Common issues include limited access to legal aid and inadequate protection of minors during legal proceedings. Successful cases demonstrated the positive impact of restorative justice and mediation in facilitating re-socialization. The insights gained from this method underscore the need for procedural safeguards and expanded access to restorative justice programs.

By combining these methods, the study achieves a comprehensive analysis of minors' rights protection in criminal law. The comparative and historical legal methods provide contextual and normative insights, while policy analysis and case studies ensure practical applicability. This integrative approach not only identifies gaps in Azerbaijan's juvenile justice system but also offers actionable recommendations for legislative and procedural improvements.

Results and Discussion

The rights of juveniles in the criminal justice system are a pressing concern globally. Legal frameworks aim to balance the protection of minors, accountability for offenses, and prevention of juvenile delinquency, emphasizing the importance of a rehabilitative and child-friendly approach. This section refines and expands the analysis and interpretation of international and national legal frameworks concerning juvenile rights.

Key Findings from International Legal Frameworks

1. Focus on Rehabilitation and Child-Friendly Justice

International instruments, such as the United Nations Convention on the Rights of the Child (United Nations General Assembly, 1989) and the United Nations Standard Minimum Rules for the Administration of Juvenile Justice (United Nations General Assembly, 1985), prioritize rehabilitation and reintegration over punishment. They emphasize alternatives to imprisonment, such as education and community service, as essential for juvenile offenders.

These standards provide a blueprint for member states but require consistent application. For instance, while the principles encourage minimizing imprisonment, many countries fail to implement robust alternatives, limiting their practical impact.

2. Procedural Safeguards and Child Participation

Documents like the Guidelines of the Committee of Ministers on Child-Friendly Justice (Council of Europe, 2011) highlight the importance of procedural safeguards, such as the right to be informed and heard. These ensure that children actively participate in judicial processes.

While procedural safeguards are widely acknowledged, disparities in their enforcement remain. Countries with limited resources or insufficiently trained personnel often fall short in creating genuinely child-friendly environments.

3. Protection from Exploitation and Abuse

Instruments like the Geneva Declaration of the Rights of the Child (League of Nations, 1924) and the EU Strategy on the Rights of the Child (European Commission, 2021) focus on shielding minors from exploitation, particularly in situations involving crimes such as trafficking, abuse, or neglect.

These frameworks stress the need for specialized protections, but implementation varies. For example, while countries like Germany integrate stringent safeguards, others lack the institutional capacity to detect and address abuse effectively.

4. Early Interventions and Preventative Approaches

Recommendations such as Rec(2000)20 (Council of Europe, Committee of Ministers, 2000), on Early Psychosocial Intervention underline the need for societal involvement in preventing delinquency through early support mechanisms, including education, family counseling, and social programs.

Early interventions are proven to reduce recidivism but require significant investment in infrastructure and cross-sector collaboration. Resource-constrained nations often struggle to adopt these preventative measures.

Comparative Insights from National Practices

1. Azerbaijan's Juvenile Legal Framework

The Soviet-era Criminal Codes of the Azerbaijan Republic (1922, 1927, 1960) contained only a few provisions related to crimes against minors. For example, the 1922 Criminal Code stipulated penalties for teaching religious doctrines to minors (Art. 121), the sale or purchase of young children (Art. 159, Part 2), kidnapping or substitution of another's child (Art. 162), and for non-payment of alimony or abandonment of minors (Art. 165). Similar provisions were included in the 1927 Criminal Code. In the 1960 Criminal Code, crimes against minors were not distinguished as a separate category but were listed among crimes against individuals or public safety (Samedova, 2008).

The current Criminal Code of Azerbaijan, adopted on December 30, 1999, and effective since September 1, 2000, for the first time designated crimes against minors and family relations in a separate chapter—Chapter 22. While the list of crimes in this chapter remained almost unchanged, the new Criminal Code introduces increased criminal responsibility for certain offenses against minors, which are also codified in other sections of the code. Crimes against minors constitute about 2% of the country's overall crime structure (Samedova, 2020).

In modern Azerbaijani legislation, kidnapping (Art. 144.3), hostage-taking (Art. 215.2), or rape of a minor (Art. 149.2, 149.3) are considered circumstances that aggravate criminal responsibility. However, the murder of a minor is not similarly differentiated, which may give the impression that the sexual inviolability and freedom of minors are better protected than their lives (Samedova, 2017).

Statistical analysis shows the stability of the number of minors brought to criminal responsibility in recent years: 485 individuals in 2007, 479 in 2014, 323 in 2020, and 364 in 2023. However, there is concern over the high level of serious and particularly serious crimes among minors, most of which are of a profit-motivated and violent nature (Republic of Azerbaijan, 2024).

The 1999 Criminal Code of Azerbaijan marked progress by creating a separate chapter on crimes against minors, highlighting enhanced accountability for offenses like kidnapping, rape, and exploitation. However, gaps remain in aligning these provisions with international standards.

Statistical trends indicate fluctuations in juvenile offenses, with violent and profit-motivated crimes among the most prevalent. These trends underscore the need for robust preventative and rehabilitative programs tailored to address underlying socio-economic factors.

While Azerbaijan's modern legislation represents progress, gaps persist in aligning with international standards. Limited focus on rehabilitation, insufficient differentiation in penalties, and underdeveloped alternative sanctions highlight the need for systemic reforms.

2. Central and Eastern European Approaches

Countries like Malta adopt the principle of *doli incapax* for children under 14, with an emphasis on parental supervision and alternatives to punitive measures. Similarly, Austria and Bulgaria use standardized age verification processes to ensure that minors are treated appropriately. These countries provide valuable lessons in structuring age-appropriate responses to juvenile offenders, demonstrating the effectiveness of early intervention and restorative justice.

3. Zimbabwe's Expanding Protections

Zimbabwe's Criminal Law Amendment Bill (ZimLII, 2024), addresses significant gaps by extending protections against sexual exploitation to minors aged 16–18. This reform aligns national laws with constitutional definitions of children and international standards.

Zimbabwe's approach illustrates the potential for legislative reforms to close protection gaps, particularly in contexts with previously limited safeguards for vulnerable adolescents.

Discussion: Interpretation and Deeper Analysis

1. Gaps in Harmonization and Implementation

The lack of uniformity in defining the minimum age of criminal responsibility (MAoCR) across countries reveals a critical challenge. While the UN Convention on the Rights of the Child urges member states to establish an MAoCR, its flexibility leaves room for disparity. For example, in Azerbaijan, specific offenses against minors are treated more stringently, yet the absence of equivalent differentiation for crimes like murder raises questions about the coherence of protections.

For instance, Azerbaijan enforces stringent penalties for offenses against minors such as rape or kidnapping, yet lacks differentiated treatment for crimes like murder when minors are the victims. This inconsistency raises concerns about the coherence of the protective framework. In some systems, the absence of standardized thresholds has led to excessive criminalization of young offenders or insufficient safeguards for vulnerable victims.

Moreover, many countries lack comprehensive mechanisms for implementing alternative sanctions, leaving minors in environments that perpetuate rather than rehabilitate criminal behavior. Addressing these gaps requires not just legislative reform but also cultural and institutional shifts to prioritize child welfare over punitive measures.

2. Socio-Cultural Influences on Juvenile Justice

National systems are heavily influenced by cultural and historical contexts. For instance, Azerbaijan's Soviet-era criminal codes emphasized collective values, whereas modern legislation integrates individual rights, reflecting broader societal changes. Similarly, Zimbabwe's evolving laws showcase the interplay between constitutional mandates and socio-political dynamics.

In the post-Soviet era, Azerbaijan has gradually adopted a more rights-based approach, reflecting international standards and societal shifts toward valuing individual rights. Similarly, Zimbabwe's evolving legislation demonstrates the interplay between constitutional mandates and socio-political pressures, particularly in extending protections to older minors.

These transitions highlight the tension between historical practices and modern reforms. While socio-cultural factors often dictate the pace and scope of legislative changes, they also present opportunities to tailor global principles to local realities. For example, integrating restorative justice practices rooted in community values can help bridge this gap.

3. Role of Preventative and Rehabilitative Measures

Best practices from nations like Malta and Germany demonstrate the effectiveness of early psychosocial interventions in reducing recidivism. Rehabilitation-focused measures, such as educational programs and non-custodial sentences, are vital for reintegration, particularly for first-time offenders.

Malta's application of restorative justice practices, such as victim-offender mediation, demonstrates the value of non-custodial measures in fostering accountability and empathy among juvenile offenders. Similarly, Germany's focus on therapy-driven sanctions highlights the effectiveness of addressing underlying behavioral issues rather than resorting to punitive responses.

In contrast, Azerbaijan faces challenges in institutionalizing such practices. Limited resources, insufficient training for professionals, and a focus on punitive measures restrict the implementation of effective rehabilitation programs. Expanding access to these measures is crucial to achieving the rehabilitative goals outlined in international frameworks.

4. Training and Capacity Building

The disparity in professional training among law enforcement, legal practitioners, and judiciary members significantly affects outcomes for minors. Specialized training on juvenile rights and developmentally appropriate communication is critical to bridging this gap.

Specialized training is essential to equip stakeholders with the skills to uphold juvenile rights effectively. For instance, training programs focusing on child psychology, trauma-informed care, and restorative justice practices can help bridge this gap. Countries like Norway and New Zealand, which have implemented comprehensive training for juvenile justice personnel, serve as valuable models for enhancing professional capacity.

Recommendations for Reform

To enhance the criminal justice system's responsiveness to juvenile needs, the following steps are recommended:

Standardized MAoCR: establish a globally aligned minimum age of criminal responsibility with clear thresholds for non-liability below 14 years.

Enhanced Procedural Safeguards: strengthen mechanisms to inform children of their rights, provide legal counsel, and ensure child-friendly judicial environments.

Expanded Protections: align national laws with international standards to address gaps in protection, particularly for vulnerable groups. Priority should be given to comprehensive legal definitions and protections for vulnerable groups, including minors in conflict zones.

Early Interventions: Develop community-based programs focusing on family support, education, and mental health interventions to prevent delinquency. Successful models, such as Germany's therapy-driven sanctions, can be adapted to local contexts.

Rehabilitation over Punishment: prioritize non-custodial sentences and establish robust rehabilitation frameworks to facilitate reintegration into society.

Capacity Building: implement comprehensive training programs for all stakeholders involved in juvenile justice, emphasizing child psychology, communication, and restorative practices. Training should emphasize child psychology, communication techniques, and restorative practices to ensure minors' rights are protected throughout the process.

The comparative analysis of international and national legal frameworks highlights the critical importance of harmonizing laws to protect juvenile rights in the criminal process. While progress has been made in many jurisdictions, significant challenges remain in implementation and practice. A multifaceted approach

incorporating legal reform, preventative strategies, and professional training is essential to create a justice system that upholds the best interests of children at every stage.

Conclusions

1. International and National Legal Frameworks

International standards, such as the UN Convention on the Rights of the Child, emphasize recognizing children as rights-bearing individuals with unique needs, ensuring their safety, well-being, and development. National laws often mirror international norms but require local adjustments to fit socio-cultural contexts. While many countries attempt to align their laws with international norms, effective implementation requires customization to fit socio-cultural contexts. For example, Azerbaijan's efforts to raise the minimum age of criminal responsibility (MAoCR) and develop juvenile rehabilitation programs demonstrate progress, but further reforms are necessary to close existing gaps. Some nations, particularly in under-resourced regions, lag in adopting critical reforms like increasing the MAoCR or implementing restorative justice practices, underscoring the need for global advocacy and support.

2. Provision of Legal Assistance in Criminal Processes

Case studies reveal systemic deficiencies in providing minors with adequate legal representation, leading to frequent violations of their rights during criminal proceedings. It is vital to develop specialized legal assistance mechanisms. Minors often face violations of their rights during criminal proceedings due to insufficient legal representation. This systemic gap exacerbates their vulnerability, particularly during complex or high-stakes cases. Establishing dedicated organizations and specialized legal aid programs is vital to ensuring minors' access to justice. For instance, a Child Justice Center with trained lawyers and social workers can ensure effective representation and advocacy for minors in the legal system. The lack of training for justice professionals leads to gaps in understanding child development and communication. Tailored programs focusing on child psychology, trauma, and ethical considerations are essential to equip practitioners with the skills needed to safeguard minors' rights.

3. Comparative Analysis of Juvenile Justice Systems

While many Central and Eastern European nations and Azerbaijan align with international juvenile justice principles, implementation differs significantly. The UK, Germany, and Malta have robust rehabilitation programs. But Azerbaijan and Zimbabwe are in the initial stages of forming such mechanisms. Their progress highlights the importance of learning from best practices globally while tailoring reforms to local socio-economic contexts. Thus, enhanced experience-sharing is essential to refine juvenile justice frameworks globally. Comparative analysis reveals that experience-sharing and international collaboration can accelerate progress, particularly in nations with nascent frameworks. Joint projects, such as cross-border training programs and expert exchanges, can provide practical insights for system refinement.

4. Recommendations for Criminal Law Reform

- 1) **Align Criminal Responsibility Standards:** Raise the minimum age of criminal responsibility in compliance with international standards.
- 2) **Implement Rehabilitation Programs:** Design and implement specialized rehabilitation programs addressing minors' psychological and social needs.
- 3) **Expand Legal Assistance Programs:** Develop accessible legal aid initiatives and provide training for professionals assisting minors in criminal cases.
- 4) **Train Justice Professionals:** Provide specialized training on ethical, psychological, and legal aspects of working with children.

Aligning national laws with international norms like the CRC is foundational to creating equitable and effective juvenile justice systems. Rehabilitation and preventative approaches, such as early psychosocial interventions and non-custodial sentences, have proven successful in reducing recidivism and supporting minors' reintegration into society. Addressing systemic gaps in legal representation and enhancing professional capacity through targeted training are essential to protecting minors' rights. International partnerships can provide the technical expertise and resources necessary to improve juvenile justice systems, particularly in emerging frameworks.

5. Future Research Directions

Integration of International Standards: Investigate strategies to incorporate international frameworks like the UN Convention on the Rights of the Child into domestic legal systems.

Youth Crime Prevention: Focus on developing new approaches to prevent juvenile delinquency and promote children's overall development and rights protection.

This comprehensive analysis underscores the importance of adapting criminal law and support systems to uphold minors' rights and well-being while fostering international collaboration for systemic improvements.

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Peculiarities of recognition and enforcement of foreign judgments in Ukraine: problematic aspects

ОСОБЛИВОСТІ ВИЗНАННЯ ТА ВИКОНАННЯ РІШЕНЬ СУДІВ ІНОЗЕМНИХ ДЕРЖАВ В УКРАЇНІ: ПРОБЛЕМНІ АСПЕКТИ

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Abstract

This article examines the legal framework, challenges, and procedural nuances of recognizing and enforcing foreign court decisions in Ukraine. The study analyzes Ukraine's legislative provisions, international treaties, and judicial practices governing the enforcement of foreign judgments, highlighting the impact of Ukraine's commitments under various international agreements. Key factors influencing the enforcement process, such as reciprocity, jurisdictional limits, and procedural fairness, are explored to provide insights into the complexities of cross-border judicial cooperation. The article also discusses recent legal developments in Ukraine that affect the recognition and enforcement of foreign judgments, addressing both practical and theoretical perspectives. The research employs several scientific methods,

Анотація

У статті розглядаються законодавча база, виклики та процесуальні нюанси визнання та виконання рішень іноземних судів в Україні. У дослідженні аналізуються положення законодавства України, міжнародні договори та судової практика, що регулюють виконання іноземних судових рішень, підкреслюється вплив зобов'язань України за різними міжнародними угодами. Ключові фактори, що впливають на процес виконання, такі як взаємність, юрисдикційні обмеження та процесуальна справедливість, досліджуються, щоб зрозуміти складності транскордонної судової співпраці. У статті також розглядаються останні правові зміни в Україні, які впливають на визнання та виконання іноземних судових рішень, розглядаються як практичні, так і теоретичні перспективи. Дослідження

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including the legal, the comparative method to contrast Ukrainian and international approaches, the normative analysis method to examine specific legislative provisions, the systematic method to evaluate the coherence of Ukraine's judicial policies, and the case-study method to illustrate practical challenges through recent legal examples. The article concludes with recommendations for enhancing Ukraine's enforcement practices, thereby promoting more effective international judicial cooperation.

Keywords: protection of person's rights, enforcement proceedings, foreign court decisions, international treaties, judicial cooperation.

використовує кілька наукових методів, зокрема юридичний, порівняльний метод для порівняння українських і міжнародних підходів, метод нормативного аналізу для вивчення окремих законодавчих положень, системний метод для оцінки узгодженості судової політики України та метод кейс-стаді для порівняння проілюструвати практичні проблеми на останніх юридичних прикладах. Стаття завершується рекомендаціями щодо вдосконалення практики виконання в Україні, сприяючи тим самим більш ефективній міжнародній судовій співпраці.

Ключові слова: захист прав особи, виконавче провадження, рішення іноземних судів, міжнародні договори, судова співпраця.

Introduction

The increasing interconnectedness of the global economy and the surge in cross-border legal interactions have amplified the necessity for robust mechanisms to recognize and enforce foreign court decisions. Such mechanisms are pivotal for facilitating international cooperation and fostering trust in legal systems across borders. For Ukraine, the effective recognition and enforcement of foreign judgments are not merely procedural imperatives but also vital steps toward integrating into the global judicial community and strengthening its legal infrastructure.

However, this process is fraught with challenges. Ukraine faces intricate legal and procedural hurdles, including jurisdictional limitations, the principle of reciprocity, and compliance with specific legislative requirements. Addressing these issues is crucial for ensuring the reliability and predictability of Ukraine's judicial system in cross-border contexts.

This article delves into these complexities, focusing on the unique features of Ukraine's legal framework governing the recognition and enforcement of foreign court judgments. It examines how international obligations, domestic legislation, and judicial practices shape this process.

The primary objective is to analyze Ukraine's approach to recognizing and enforcing foreign judgments, identify the challenges encountered, and propose practical recommendations for reform. The analysis centers on key research questions, such as:

What legal provisions and international agreements govern the recognition and enforcement of foreign judgments in Ukraine?

How does Ukraine's approach to reciprocity influence the enforcement process?

What procedural challenges complicate the enforcement of foreign court decisions?

How can Ukraine align its approach with international standards to enhance cross-border judicial cooperation?

To address these questions, the article is structured into four key sections:

Theoretical Framework or Literature Review – This section explores the theoretical foundations and prior research on the recognition and enforcement of foreign court decisions. It situates Ukraine's legal framework within international legal standards and draws comparisons with other legal systems to identify key similarities and differences.

Methodology – This section details the research methods employed, including the comparative method, normative analysis, systematic method, and case-study approach, explaining their relevance to analyzing Ukraine's legislative and procedural practices.

Results and Discussion – The findings are presented here, highlighting Ukraine's current practices, identifying significant challenges, and analyzing the implications of legal and procedural factors. The discussion emphasizes actionable insights and potential reforms to enhance Ukraine's approach.

Conclusion – The article concludes by summarizing the main findings and offering specific recommendations to align Ukraine's framework with international standards, thus facilitating more effective judicial cooperation.

By bridging theoretical analysis with practical insights, this article aims to contribute to a nuanced understanding of Ukraine's position in the realm of international judicial cooperation and to identify pathways for aligning its practices with global expectations.

Theoretical Framework or Literature Review

The recognition and enforcement of foreign court judgments in Ukraine represent a complex and evolving area within international private law, influenced by various international conventions, domestic laws, and case studies. This literature review offers an in-depth examination of the main issues discussed in Ukrainian and foreign legal research and publications.

1. Kuzmenko S.H. (2010) *International Private Law*. This Ukrainian textbook provides foundational insights into the principles of international private law in Ukraine, with a particular focus on how international agreements influence domestic enforcement of foreign judgments. It highlights procedural requirements and legal principles for recognition processes.
2. Fortuna T.Ya. (2011) *Concept and Legal Nature of Recognition and Enforcement of Foreign Judgments in Ukraine*. This article explores the legal concept of recognition in Ukraine, examining both legislative and practical challenges. Fortuna's work discusses the conditions under which Ukrainian courts may deny recognition, including matters of public order.
3. Belikova S.O. (2020) *Recognition and Enforcement of Foreign Court Judgments: Theoretical and Practical Aspects*. This study analyzes theoretical frameworks and practical obstacles, including the limited number of international treaties that Ukraine has for mutual legal assistance, impacting the enforcement rate of foreign judgments.
4. Kryshalowych H. and Salomon C.T. (2003). *Enforcing Foreign Arbitral Awards and Foreign Judgments in Ukraine*. Published in the *American Review of International Arbitration*, this article explores Ukraine's adherence to international arbitration treaties, such as the New York Convention, which facilitate enforcement but have limitations with non-contracting states.
5. Dentons (2023) *Ukraine Strengthens Legislative Framework for Dispute Resolution*. This analysis provides an overview of recent legislative improvements in Ukraine, particularly related to exclusive choice-of-court agreements. Dentons discusses implications for businesses that select Ukrainian or foreign jurisdictions in contracts.
6. King & Spalding (2023) This analysis provides insights into the Hague Judgments Convention, which Ukraine joined in 2023, and examines its impact on the recognition of EU judgments in Ukraine and vice versa. The Convention simplifies the enforcement process, minimizing the grounds on which a judgment can be refused, thus aiding commercial litigation between Ukraine and EU member states amid Ukraine's EU integration ambitions.
7. CMS Law (2022). This publication details the procedural framework for enforcing foreign court judgments and arbitral awards in Ukraine. It emphasizes the conditions under the Ukrainian Code of Civil Procedure and highlights specific requirements for international commercial arbitration decisions under the New York Convention, focusing on reciprocity and statutory limitations.
8. Solimine, M.E. (2022) explores the challenges of enforcing foreign judgments in the United States within the context of the law market model, which advocates for greater consumer choice in determining applicable law. Solimine argues that, unlike other areas of law where parties can select governing laws, the enforcement of foreign judgments remains highly regulated and often faces significant hurdles. The article suggests that allowing more contractual flexibility in recognizing foreign judgments could enhance efficiency and legal certainty in international disputes.
9. D. Akhmurodov (2024) outlines key principles governing the recognition and enforcement of foreign judgments, emphasizing the importance of reciprocity, due process, and adherence to public policy. It highlights that while regional agreements, such as those in the EU, have made strides in streamlining processes, global harmonization remains incomplete. The article also discusses various practices and recommendations that can enhance international cooperation in recognizing foreign



- judgments, underscoring the necessity for jurisdictions to balance their sovereign interests with the need for effective dispute resolution in an increasingly interconnected world.
10. O. Tsybulska (2023) claims that since the full-scale invasion of Ukraine by the Russian Federation, there has been an increasing need to recognize foreign court decisions within Ukraine. This trend is primarily driven by the mass exodus of Ukrainian citizens seeking refuge abroad. While these individuals may keep their status as Ukrainian citizens, they retain the right to seek protection either in their host country or back in Ukraine, depending on the nature of the legal issues involved. In this context, one viable way to safeguard their rights, freedoms, and interests is by filing a petition with the Ukrainian courts in a separate proceeding.
 11. Susan L. Stevens (2002) in her article «Commanding International Judicial Respect: Reciprocity and the Recognition and Enforcement of Foreign Judgments» explores the historical, social, and legal foundations of sovereign recognition and enforcement of foreign judgments. She evaluates three proposed versions of reciprocity laws, focusing on the version adopted by the American Law Institute (ALI). Using game theory, the author constructs two basic models to illustrate the strengths and weaknesses of each version, ultimately identifying the most effective strategy for the United States within these frameworks. The discussion highlights the benefits of reciprocity and concludes that the ALI's adopted reciprocity law represents the optimal approach for ensuring effective foreign judgment recognition and enforcement in the U.S.
 12. Yehya Ibrahim Badr (2021) presents a comparative study between the rules governing the recognition and enforcement of foreign judicial decisions in the jurisdictions of the Latin Civil Law School, such as France and Egypt, and the rules in force in the countries of the Anglo-Saxon Common Law School, such as England and the United States of America, to show the similarities and differences between the two schools. Among other things the article demonstrates how the Hague Convention 2019 rules work to integrate the provisions of the convention within the national legal system, with an overview of the legal implications of Egypt's adoption of the provisions of the convention.

These sources collectively illustrate the challenges and progressive developments in Ukraine's handling of foreign judgments. Through international conventions, legislative updates, and court rulings, Ukraine is gradually refining its legal framework to improve international cooperation in private law matters. However, as several authors point out, the country still faces procedural barriers and legal inconsistencies that complicate enforcement, particularly with nations outside of its direct treaty obligations. This literature review provides a basis for understanding the complex legal environment surrounding the recognition and enforcement of foreign judgments in Ukraine, setting the stage for a discussion of empirical findings in the following sections of this article.

Methodology

1. Legal Analysis

The legal analysis entails an in-depth review of Ukrainian legislation, international treaties, and comparative laws from other jurisdictions. Key documents include the Ukrainian Civil Procedure Code, the New York Convention, and the Hague Convention. This method examines the legal framework governing the recognition and enforcement of foreign judgments in Ukraine and evaluates recent amendments reflecting geopolitical and legal changes.

This method was chosen because it provides a foundation for understanding the legal environment. Unlike statistical or purely empirical methods, legal analysis directly examines primary sources of law, enabling precise identification of the rules, principles, and interpretations guiding judicial decisions. It is indispensable for legal research focused on normative frameworks and compliance with international standards.

2. Qualitative Interviews

Qualitative interviews involve collecting insights from legal practitioners, judges, and scholars with experience in cross-border judicial cooperation and enforcement processes in Ukraine. These interviews aim to capture expert opinions and real-world challenges faced in applying relevant legal provisions.

This method enriches the study by incorporating practical perspectives that cannot be derived solely from legal texts. It was chosen over surveys because interviews allow for more nuanced, in-depth discussions about specific issues, providing qualitative insights into how laws function in practice, particularly in a rapidly changing geopolitical context.

3. Case Studies

The study includes case studies of Ukrainian court decisions regarding the recognition and enforcement of foreign judgments. These cases are selected based on their relevance to contemporary issues, such as the challenges faced by displaced Ukrainian citizens. The analysis explores the courts' legal reasoning, the outcomes for the parties involved, and broader implications for judicial practice.

Case studies offer a concrete illustration of how abstract legal principles are applied in practice. They were selected over large-scale data analysis methods because the focus is on qualitative depth rather than statistical trends. This approach is particularly effective in addressing specific legal challenges and their practical implications.

4. Comparative Method

This method involves comparing Ukraine's legal framework with that of other jurisdictions, particularly EU member states and countries with established precedents in recognizing and enforcing foreign judgments. The analysis identifies best practices and potential reforms by examining how different legal systems handle similar issues.

The comparative method provides a broader context, enabling the identification of effective solutions used elsewhere. It was chosen over purely domestic analysis because cross-border judicial cooperation inherently requires understanding foreign practices and aligning with international standards. This method highlights discrepancies and opportunities for harmonization.

5. Systematic Method

The systematic method involves a structured review of existing literature, including academic articles, legal reviews, and empirical studies. It synthesizes findings to create a comprehensive understanding of the current legal landscape and its implications for Ukraine.

This method ensures that the study builds on a well-documented foundation, avoiding duplication of prior research and identifying gaps in the current body of knowledge. It was selected over less structured literature reviews because systematic methods provide rigor, transparency, and reproducibility, which are critical for robust legal scholarship.

The combination of these methodologies provides a holistic approach to the subject matter, addressing theoretical, practical, and comparative dimensions. Methods like legal analysis and case studies are central to understanding the specific legal framework and its application in Ukraine. Qualitative interviews and the comparative method add broader perspectives and insights, while the systematic method ensures a grounded and comprehensive basis for conclusions. This mixed-methods approach avoids the limitations of relying on a single perspective, ensuring a robust and multidimensional analysis of the topic.

Results and discussion

Legal Provisions and International Agreements Governing the Recognition and Enforcement of Foreign Judgments in Ukraine

In Ukraine, the recognition and enforcement of foreign judgments are regulated by a combination of national laws, procedural codes, and international agreements. Each normative act plays a specific role in defining how foreign court decisions are integrated within the Ukrainian legal framework. The primary legislative instruments include the Civil Procedure Code of Ukraine, various bilateral treaties, and relevant multilateral agreements such as the Hague Convention on the Recognition and Enforcement of Foreign Judgments and the New York Convention on Arbitral Awards.

Civil Procedure Code of Ukraine

The Civil Procedure Code of Ukraine (Law 1618-IV, 2004) serves as the foundational national legislation for the recognition and enforcement of foreign court judgments. Under the Code, recognition and enforcement procedures are outlined in Chapter IX, specifically in Articles 464–468, which detail the types of foreign judgments eligible for recognition, the process for filing a petition, and the conditions under which Ukrainian courts may refuse recognition. This Code emphasizes reciprocity, requiring foreign judgments to be recognized in Ukraine only if there is evidence of reciprocal recognition for Ukrainian judgments in the foreign jurisdiction. Additionally, the Code allows for the refusal of recognition if the foreign judgment contradicts Ukraine's public policy, was obtained under procedurally unfair conditions, or pertains to exclusive jurisdiction reserved for Ukrainian courts.

Bilateral Agreements

Bilateral agreements between Ukraine and other countries play an essential role in regulating the recognition and enforcement of foreign judgments, complementing the provisions of the Ukrainian Civil Procedure Code. These agreements establish specific reciprocal terms and offer a clear legal foundation for judicial cooperation between Ukraine and other countries, ensuring that judgments rendered in one jurisdiction can be effectively recognized and enforced in another.

Treaties with EU Countries

Ukraine has established bilateral treaties with several European Union member states, such as Poland, Hungary, and the Czech Republic, which streamline the process for recognizing and enforcing judgments (The Verkhovna Rada of Ukraine, 2001a; The Verkhovna Rada of Ukraine, 2001b; The Verkhovna Rada of Ukraine, 1993). These treaties typically outline mutual obligations, specifying criteria for recognition, conditions under which enforcement may be denied, and procedural requirements for filing a recognition petition. For instance, in the Ukrainian-Polish treaty, each country agrees to honor civil and commercial judgments, provided they are rendered by competent courts and meet due process standards. Such agreements aim to facilitate smoother cross-border litigation, especially for civil and commercial matters, and they reduce the administrative burdens and costs typically associated with recognition and enforcement.

Agreements with Neighboring Countries

Besides the EU, Ukraine has bilateral treaties with neighboring non-EU countries, such as Turkey. These treaties often emphasize similar standards for reciprocity and due process, ensuring that judgments made in one jurisdiction can be upheld in the other as long as they adhere to fundamental legal standards, including fairness and jurisdictional competence. The Ukrainian-Turkish treaty, for example, provides for the mutual recognition of court decisions in civil and family law matters (The Verkhovna Rada of Ukraine, 2000). This agreement benefits individuals and businesses engaged in cross-border relationships by providing a level of predictability and legal assurance that judgments will be respected across borders, provided they comply with treaty terms.

Agreements with Asian and Middle Eastern Countries

Ukraine also maintains bilateral treaties with several countries in Asia and the Middle East, including Israel and China (The Verkhovna Rada of Ukraine, 1992). These treaties are crucial given the significant trade and personal ties between Ukraine and these regions. For example, the Ukrainian-Israeli agreement outlines specific procedures for recognizing court decisions, emphasizing the importance of due process and aligning closely with Ukraine's national standards on public policy exceptions. Such agreements are vital for businesses and individuals with transnational interests, as they offer a reliable means to enforce judgments and navigate legal disputes across jurisdictions.

Limitations and Challenges of Bilateral Agreements

While these bilateral treaties provide a structured approach to the recognition and enforcement of foreign judgments, there are still limitations and challenges. Differences in procedural requirements and legal traditions can create complexities, as each treaty must be individually analyzed for its specific provisions. Additionally, the treaties generally apply only to civil and commercial judgments, with enforcement of

family law or other specific areas requiring further negotiation or judicial discretion. The bilateral nature of these agreements also means that they cannot provide universal standards, necessitating reliance on broader multilateral frameworks or individual negotiation where treaties are absent.

Hague Convention on the Recognition and Enforcement of Foreign Judgments (2019)

The Hague Convention on the Recognition and Enforcement of Foreign Judgments in Civil or Commercial Matters is a critical international framework aimed at harmonizing cross-border enforcement (HCCH, 2019). The Hague Convention entered into force on September 1st, 2023, between the EU Member States (excluding Denmark) and Ukraine. The principles outlined in the Convention influence Ukrainian judicial practices, as the Convention promotes global standards in judgment recognition. The Convention outlines general conditions for recognition, including requirements for jurisdiction, procedural integrity, and public policy. After the ratification of the Convention, Ukraine is able to benefit from a more streamlined, internationally accepted procedure for judgment recognition, which simplify cross-border dispute resolution and increase predictability in enforcement practices.

New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958)

The New York Convention (United Nations, 1958) is pivotal in the enforcement of arbitral awards, providing an international framework that Ukraine has incorporated into its legal system. Under this Convention, which Ukraine ratified in 1960, Ukrainian courts recognize and enforce foreign arbitral awards, provided they meet certain criteria. Article V of the New York Convention specifies limited grounds for refusal, including issues related to public policy, procedural fairness, and jurisdictional excesses. The Convention's binding nature in Ukraine means that foreign arbitral awards from contracting states generally face fewer obstacles in enforcement, making this framework highly beneficial for international arbitration cases. The Convention's adoption into Ukrainian law underscores the country's commitment to honoring arbitration as a form of dispute resolution, ensuring that foreign arbitral awards receive swift and fair consideration in Ukrainian courts.

Together, legal provisions and international agreements establish a robust framework for the recognition and enforcement of foreign judgments in Ukraine. However, the application of these provisions is subject to certain challenges, particularly concerning the public policy exception and issues related to reciprocity. By adhering to these standards, Ukraine continues to develop a predictable and legally sound environment for foreign judgments, reinforcing its commitment to international cooperation and the protection of rights across borders.

Answering the second research question of the current article we can state that Ukraine's approach to reciprocity plays a significant role in the recognition and enforcement of foreign judgments, functioning as a safeguard to ensure that Ukrainian judgments receive reciprocal treatment abroad. Under the Civil Procedure Code of Ukraine, reciprocity is a key requirement for enforcing foreign court decisions, and it serves as a basis for determining which foreign judgments will be considered valid within the Ukrainian legal system.

The Civil Procedure Code mandates that for a foreign judgment to be recognized in Ukraine, there must be an indication that Ukrainian judgments would receive similar recognition in the foreign jurisdiction. This requirement emphasizes the principle of mutual respect and legal parity between Ukraine and the foreign state. The approach is designed to prevent potential imbalances in cross-border judicial cooperation, where one country might consistently recognize judgments from another without receiving equivalent recognition in return.

In Ukraine, reciprocity can be formal or implied. Formal reciprocity exists when there is a bilateral or multilateral agreement between Ukraine and the foreign country, explicitly stipulating mutual recognition of judgments. Treaties with countries like Poland, Hungary, and Turkey serve as examples of formal reciprocity, where both countries have agreed to mutually enforce each other's judgments under specific conditions. Implied reciprocity, on the other hand, is more complex. When no formal treaty exists, Ukrainian courts may still recognize a foreign judgment if there is sufficient evidence that the foreign country would enforce a comparable Ukrainian judgment. Courts often rely on case-by-case analysis, past practices, or precedent decisions to determine implied reciprocity.

The reciprocity requirement influences the efficiency and predictability of the enforcement process. When formal treaties are in place, the enforcement process tends to be more streamlined, as the terms are clear and standardized. In these cases, the procedure is simplified, and parties are more likely to predict the outcome. However, in the absence of formal treaties, proving implied reciprocity can add uncertainty to the process. Litigants may face challenges in providing evidence of reciprocity, particularly when judicial practices or legal standards differ significantly between Ukraine and the foreign jurisdiction. This can lead to delays and increased legal costs, potentially deterring individuals or companies from pursuing cross-border litigation.

While reciprocity is a primary consideration, Ukrainian courts retain the discretion to refuse recognition based on public policy exceptions. Even in cases where reciprocity exists, the court may deny enforcement if the foreign judgment violates Ukrainian public policy or fundamental legal principles, as outlined in the Civil Procedure Code. This ensures that Ukraine can maintain sovereignty over its judicial standards and protect its national interests in situations where foreign judgments may conflict with Ukrainian laws or social values.

Ukraine's reliance on reciprocity reflects both the strengths and limitations of its current legal framework for cross-border judgment enforcement. While reciprocity ensures fairness and equality in international legal cooperation, it can also pose challenges in a globalized environment where countries may have vastly different legal standards and procedures. Ukraine's enforcement process could benefit from future ratification of multilateral frameworks, like the 2019 Hague Convention on the Recognition and Enforcement of Foreign Judgments, which could reduce the need for case-by-case reciprocity determinations and create a more predictable enforcement process for cross-border judgments.

Thus, Ukraine's approach to reciprocity significantly shapes the enforcement process, balancing international cooperation with protection of domestic judicial standards. While formal reciprocity agreements facilitate smoother enforcement, the need to establish implied reciprocity in the absence of treaties can introduce complexities that affect the efficiency and accessibility of legal remedies in international cases.

As an example, it is worth citing a court case in which the principle of reciprocity was applied.

Case No. № 2-к/205/2/23 (2023)

The Southern Interregional Department of the Ministry of Justice (Odesa) sent petition to the court, in which the applicant requested to recognize in the territory of Ukraine and send for execution the decision of the Sumgait City Court of the Republic of Azerbaijan dated November 10, 2020 to make changes to the birth records. The court decided to recognize and grant permission for the execution in the territory of Ukraine of the decision of the Sumgait City Court of the Republic of Azerbaijan dated November 10, 2020, applying the principle of reciprocity.

One of the foremost procedural hurdles is the requirement to establish reciprocity when no formal agreement exists between Ukraine and the foreign state. In cases of implied reciprocity, petitioners are often tasked with proving that the foreign country would reciprocate by enforcing a comparable Ukrainian judgment. However, this can be a complex and time-consuming process, requiring substantial evidence of similar enforcement practices or case precedents in the foreign jurisdiction. The ambiguity surrounding implied reciprocity often leads to unpredictable outcomes and increased litigation costs, as petitioners must present extensive documentation to demonstrate that reciprocity exists.

Ukrainian courts can refuse recognition and enforcement if a foreign judgment is deemed contrary to Ukrainian public policy. While the public policy exception serves as a safeguard against enforcing judgments that may conflict with Ukraine's legal or moral standards, its broad and sometimes subjective interpretation by courts poses a challenge. Courts may reject enforcement based on perceived violations of public policy even when these issues are minor, leading to inconsistency in enforcement decisions. The uncertainty surrounding what constitutes a violation of public policy complicates the process for both litigants and judges, making outcomes less predictable.

Jurisdictional conflicts often arise when Ukrainian courts determine whether a foreign court had the proper authority to render the judgment in question. If a foreign court's jurisdiction is found to overlap with matters

reserved exclusively for Ukrainian courts, enforcement may be denied. For instance, certain family law matters or issues of state sovereignty may be considered the exclusive domain of Ukrainian courts. This restriction creates procedural barriers, particularly when foreign judgments involve complex, cross-border legal issues where jurisdiction may not be straightforward.

Ukrainian courts are mandated to assess the procedural fairness of foreign court proceedings before enforcing judgments. If a judgment was issued under conditions deemed unfair – such as lack of proper notice to one of the parties, denial of the right to legal representation, or absence of an impartial tribunal—the judgment may be denied enforcement. However, this requirement introduces significant procedural complexity, as it requires Ukrainian courts to scrutinize foreign judicial practices, which may differ greatly from domestic norms. Determining procedural fairness becomes even more challenging when the foreign jurisdiction's legal standards and processes are unfamiliar to the Ukrainian judiciary.

The enforcement process in Ukraine requires the submission of certified translations of foreign judgments and supporting documents. Obtaining certified translations can be costly and time-consuming, particularly when dealing with lengthy legal documents. Additionally, foreign litigants may face difficulties ensuring the accuracy of translations to meet Ukrainian legal standards, as nuances in legal language can sometimes lead to misinterpretation or disputes over the document's meaning. The need for precise translations, especially for complex judgments, can add considerable expense and delay to the enforcement process.

In cases where Ukraine does not have a bilateral treaty or multilateral framework agreement with a foreign country, enforcement relies heavily on the Civil Procedure Code and implied reciprocity. However, the absence of standardized procedures for non-treaty countries results in a reliance on the discretion of the judiciary, which may vary from case to case. This lack of a streamlined approach for non-treaty countries places additional procedural burdens on litigants and introduces uncertainties, as outcomes may depend on individual judges' interpretations and familiarity with foreign legal systems (Solimine, 2022).

Thus, the procedural challenges in enforcing foreign judgments in Ukraine highlight areas where the legal framework could benefit from reforms. Streamlining reciprocity requirements, clarifying public policy exceptions, and developing more standardized procedures for non-treaty countries could enhance predictability and efficiency in cross-border judgment enforcement, fostering a more accessible and reliable system for litigants.

Enhancing Ukraine's Approach to Align with International Standards and Facilitate Cross-Border Judicial Cooperation

To improve its approach to recognizing and enforcing foreign judgments, Ukraine can benefit from aligning more closely with international standards and adopting measures to streamline the enforcement process. By addressing current procedural barriers, adopting international conventions, and fostering judicial cooperation, Ukraine could create a more predictable, efficient framework for cross-border judgment enforcement.

Ratification of the Hague Convention on the Recognition and Enforcement of Foreign Judgments

One of the most impactful steps Ukraine made is ratifying the 2019 Hague Convention on the Recognition and Enforcement of Foreign Judgments in Civil or Commercial Matters. This convention provides a uniform framework for judgment recognition among contracting states, simplifying procedures and ensuring greater legal certainty in cross-border litigation. Ratification reduced reliance on the reciprocity principle, particularly in cases involving non-treaty countries, as judgments are recognized based on harmonized global standards rather than bilateral agreements. By joining this convention, Ukraine is able to foster international cooperation and create a more predictable enforcement environment, making it easier for foreign judgments to be recognized without case-by-case determinations of reciprocity.

Clarifying and Limiting Public Policy Exceptions

Ukrainian courts often rely on public policy exceptions to refuse recognition and enforcement of foreign judgments, but this exception can be broadly interpreted, resulting in inconsistencies and unpredictability. Developing more precise definitions and guidelines for applying public policy exceptions would help minimize judicial discretion and align with international standards. The New York Convention, for

example, provides narrowly defined public policy exceptions for arbitration awards, a model Ukraine could emulate for judicial decisions. Limiting the scope of public policy exceptions would reduce unnecessary barriers to enforcement while still protecting Ukraine's core legal principles.

Streamlining Procedural Requirements for Non-Treaty Countries

Ukraine's enforcement process can be complex for judgments originating from non-treaty countries, as these cases rely on implied reciprocity. To simplify the process, Ukraine could establish a streamlined set of procedures and requirements specifically for non-treaty countries, reducing the procedural burden on petitioners. This might include creating standard guidelines for evidence of reciprocity, procedural fairness, and other factors that Ukrainian courts consider in these cases. Such a framework would improve predictability and make Ukraine more accessible for foreign litigants, contributing to a more internationally aligned judicial system.

Promoting Judicial Training on International Standards

Training Ukrainian judges and legal professionals on international standards for judgment recognition and enforcement can further enhance the alignment of Ukraine's practices with global norms. By educating judges on multilateral conventions, such as the Hague and New York Conventions, and on foreign legal practices, Ukraine can improve the consistency and fairness of decisions regarding foreign judgments. Judicial training initiatives would also help judges interpret procedural fairness requirements in a way that respects both Ukrainian and international standards, fostering a more reliable cross-border judicial process.

Improving Access to Certified Translation Services

Language and translation requirements present another barrier in the enforcement process. To address this, Ukraine could develop a government-supported platform for certified translations of foreign legal documents. Streamlining access to reliable translation services would reduce costs and delays, particularly for foreign litigants, and ensure that judgments are accurately understood by Ukrainian courts. This would facilitate smoother proceedings and improve the accessibility of the Ukrainian legal system for international parties.

By implementing these measures, Ukraine would align more closely with international standards, thereby improving its cross-border judicial cooperation and enhancing predictability for foreign judgments. This alignment would also strengthen Ukraine's position as a cooperative and accessible jurisdiction in international legal matters, encouraging foreign investment and fostering trust in the rule of law.

Conclusions

This study provides a comprehensive analysis of the recognition and enforcement of foreign judgments in Ukraine, emphasizing the intricate interplay of legal and procedural factors that shape the process. It identifies strengths in Ukraine's foundational legal framework while addressing challenges such as reliance on reciprocity, broad interpretations of public policy exceptions, and procedural inefficiencies in cases involving non-treaty countries.

Novel Contributions and Key Findings

The study fills critical gaps in the literature by providing a focused examination of Ukraine's unique legal landscape, particularly:

Reciprocity Challenges: It highlights the unpredictability and evidentiary burdens associated with implied reciprocity in the absence of formal agreements, advocating for adherence to international conventions to standardize enforcement.

Public Policy Exceptions: The analysis addresses inconsistencies in judicial interpretation and proposes clear criteria and judicial training to mitigate subjective discretion.

Procedural Obstacles: Practical hurdles such as translation requirements and court delays are addressed with actionable recommendations for streamlined processes and enhanced translation access.

Role of the Hague Convention

The ratification of the 2019 Hague Convention significantly strengthens Ukraine's international judicial cooperation framework. This study underscores the convention's benefits:

Standardization: Adoption of uniform rules reduces reliance on unpredictable reciprocity.

Legal Certainty: Clear enforcement mechanisms attract foreign litigants and investors.

Efficiency: Streamlined procedures reduce delays and costs.

Public Policy Alignment: Uniform application of public policy exceptions enhances predictability and reduces refusals based on subjective grounds.

Recommendations for Further Reform

Beyond ratifying the Hague Convention, the study suggests:

Refining Public Policy Regulation: Establish clear legislative guidelines to prevent overly broad interpretations of public order.

Judicial Training: Equip judges with expertise in international law to ensure consistent application of principles.

Procedural Amendments: Introduce requirements for reasoned analysis when invoking public policy exceptions to enhance transparency and predictability.

By addressing these issues, the study advocates for a modernized enforcement framework that fosters legal accessibility, international cooperation, and economic integration. This comprehensive approach positions Ukraine as a more reliable participant in the global legal and economic system.

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Investment in the Ukrainian gambling market in wartime

Інвестиції в український ринок азартних ігор у воєнний час

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Abstract

This study is the first scientific study in Ukraine on the issue of investment attractiveness of the gambling market in conditions of full-scale war, in which the authors attempted to calculate and assess the costs and benefits that an investor can receive from investing in this type of activity. This study used the method of comparative analysis, the method of system analysis, the hermeneutic method, formal-logical (synthesis, analysis, deduction, analogy), economic analysis, absolute and comparative advantages and statistical methods. The authors analyzed the economic indicators of the market and concluded that despite the hostilities, the market shows a large and stable growth due to the online segment. At the same time, although more than 20 different licenses were issued, the market was divided among only five major players, which indicates the potential for new organizers to enter the market. The assessment of losses and benefits for the investor was carried out according to the following indicators: calculations of official costs for

Анотація

Це дослідження є першим в Україні науковим дослідженням питання інвестиційної привабливості ринку гравального бізнесу в умовах повномасштабної війни, в якому автори спробували провести розрахунки та оцінку витрат та вигоди, які інвестор може отримати від вкладення в цей вид діяльності. У цьому дослідженні використовувалися метод порівняльного аналізу, метод системного аналізу, герменевтичний метод, формально-логічний (синтез, аналіз, дедукція, аналогія), економічний аналіз, абсолютні та порівняльні переваги та статистичні методи. Автори проаналізували економічні показники ринку та дійшли висновків, що не дивлячись на воєнні дії, ринок в цілому показує доволі велике і стабільне зростання за рахунок онлайн сегменту. При цьому, хоча видано більше 20 різних ліцензій, ринок між собою розподілили між собою лише п'ять основних гравців, що свідчить про потенціал входу на ринок нових організаторів. Оцінка втрат і вигод для інвестора проводилась

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starting a business in Ukraine (license fees); assessment of the tax system of Ukraine regarding the gambling business from the point of view of the benefits of running such a business; assessment of the war risks of running a gambling business in Ukraine. The calculations showed that the high cost of licenses can be the main obstacle to entering the market for new investors, since in neighboring countries the entry price is much lower. The research conducted allowed us to conclude that today the only promising direction of investment can be the gambling business on the Internet. After the end of hostilities, we expect that the implementation of investment projects and obtaining free investment licenses will become attractive for investment, because today the potential of free investment licenses in Ukraine has not been used, not a single license has been issued, but there are no similar offers in other European markets. Promising areas of research remain the issues of the impact of gambling market taxation rates on market development, as well as on the fight against illegal gambling. A promising direction is the issue of researching the investment attractiveness of the Ukrainian lottery market and the possibilities of holding interstate lotteries in Ukraine.

Keywords: gambling business, investments, gambling business licensing, gambling business taxation, war risks.

за такими показниками: розрахунки офіційних витрат на початок бізнесу в Україні (ліцензійні платежі); оцінка податкової системи України щодо грального бізнесу з точки зору вигод ведення такого бізнесу; оцінка воєнних ризиків ведення грального бізнесу в Україні. Проведені дослідження та розрахунки показали, що висока вартість ліцензій може бути основною перешкодою входу на ринок нових інвесторів, оскільки в сусідніх країнах ціна на вхід значно нижча. Проведене дослідження дозволило прийти до висновку, що сьогодні перспективним напрямом інвестування може бути тільки гральний бізнес в мережі інтернет. Після закінчення воєнних дій очікуємо, що інвестиційно привабливим стане реалізація інвестиційних проектів та отримання безкоштовних інвестиційних ліцензій, адже сьогодні потенціал безкоштовних інвестиційних ліцензій в Україні не використаний, жодної ліцензії не видано, але аналогічних пропозицій на інших ринках Європи немає. Перспективними напрямками досліджень залишаються питання впливу ставок оподаткування ринку грального бізнесу на розвиток ринку, а також на боротьбу з незаконним гральним бізнесом. Перспективним напрямом є питання дослідження інвестиційної привабливості українського ринку лотерей та можливостей проведення міждержавних лотерей в Україні.

Ключові слова: гральний бізнес, інвестиції, ліцензування грального бізнесу, оподаткування грального бізнесу, воєнні ризики.

Introduction

The gambling business was prohibited in Ukraine more than 10 years and finally was allowed in 2020 by the Law of Ukraine "On State Regulation of Activities Regarding the Organization and Conduct of Gambling Games" (Law No 768-IX, 2020). With this law gambling in Ukraine was regulated at the legislative level, as earlier it was regulated only bylaws. Since that time the gaming market has always been highly profitable and did not require significant capital investments, and the legislation of Ukraine was quite loyal, so this market has always been attractive to both domestic and foreign investors. The law provided for not very complex mechanisms for licensing activities, and the tax system provided for small taxes. Therefore, the gaming business market was viewed by investors as quite promising. As a result, the first licenses were issued already in 2021, and the legal market began to take shape.

However, the full-scale war unleashed by the enemy on the Ukrainian territory adjusted the economic attractiveness of the state. It is well known that war never contributes to the investment attractiveness of any business. However, the gambling business is a certain exception, since it is not a classic type of business, and therefore does not obey the classic laws of economic activity and the development of the market for production or services.

Undoubtedly, the war forced the owners of land-based gambling establishments, which were mainly aimed at tourists, to suspend or even close their operations. Of course, the consequences of military operations have affected business in Ukraine, because the closure of airspace, the reduction in the number of tourists, and the introduction of a curfew do not contribute to the normal operation of gambling establishments.

However, the online gambling business was not affected. And the gaming business market is characterized by a constant growth of volumes and tax deductions, and therefore remains interesting for investors.

And after the war ends, we hope that gaming market can be interesting for the development of related industries, in particular, the construction of hotels, restaurants, entertainment centers, etc.

The experience of many countries shows that the legalization of gambling business under the conditions of a licensing procedure and simple legislation contributed to the preservation, development and development of individual countries or regions. Thus, Monaco, Macau, Las Vegas chose the path of permissiveness of gambling establishments and became large gambling centers. The casino industry in Monaco (Monte-Carlo) saved a small state, which was completely dependent on France, from bankruptcy in the 19th century. The casino industry now brings Monaco up to 90% of all income (Pohoretskyi & Toporetska, 2014, p. 47).

In the modern world, no developed country has such military experience: more than 1000 days of sustained resistance to the enemy, supported by dictators with the latest weapons. But being at war for a long time, Ukraine is very dependent on military and financial assistance from the whole world. Therefore, today our country must think about how, after defeating the enemy, to keep the economy of our state as stable as our country is in military resistance to the enemy. Therefore, it is necessary to assess the investment potential of our country to be able to offer potential investors ways to invest in the economy of Ukraine during the period of post-war recovery and reconstruction. The gambling business has always been and remains an attractive market for investment. It is very important now to show the potential of this market to potential investors and the benefits for the state from investing in this area.

The purpose of this article is to study, compare and analyze the Ukrainian legislation, which regulates the organization and conduct of gambling, economic evaluation of the gambling business market in Ukraine in war conditions, calculation of costs and benefits from deciding to engage in gambling business in Ukraine.

The object of this study is the legislation of Ukraine, which regulates the gambling business, the tax legislation of Ukraine, which determines the features of taxation of various types of gambling business, gambling business market, economic and organizational indicators of the gambling business market in Ukraine during the war.

Based on the specified purpose of this article above, the authors tried to decide such tasks:

- 1) Evaluate the economic indicators of the gaming business market in Ukraine;
- 2) Provide calculations of official costs for starting a business in Ukraine (license payments);
- 3) Evaluate the tax system of Ukraine in relation to the gambling business as the benefits of conducting such business;
- 4) Assess the military risks of doing business in Ukraine in relation to the gambling business.

This article is the first scientific study in Ukraine of the investment attractiveness of the gaming business market in the conditions of war, in which the authors tried to calculate and evaluate the costs and benefits that an investor can receive from investing in this type of activity. The authors hope that this study will be an incentive for foreign investors to decide to invest in Ukraine.

Literature review

There are no Ukrainian scientific works about assessment the investment attractiveness of legal licensed gambling. New scientific articles or PhD dissertation are devoted to administrative or legal regulation of gambling or lotteries. For instance, K. V. Profatilo considered the issue of the administrative and legal basis of CRGL activity (Profatilo, 2023, p. 144), O. D. Kostyuchenko drew attention to the mechanisms of state regulation of the gambling market in Ukraine (Kostyuchenko, 2024, p. 240, these works are important for understanding the instruments of state influence on the gambling market and O. M. Lyskov devoted his work to researching the lottery market (Lyskov, 2016, p. 47). Lotteries in most countries are classified as gambling, and therefore this market is also interesting for investors. Currently, Ukraine is expected to make changes to lottery legislation, which will open the lottery market to foreign investors, and therefore the investment attractiveness of the lottery market is promising for further scientific research.

A very important basis for this study is the experience of foreign countries regarding the model of organizing the gambling market, as well as which models are more successful not only for investors, but primarily for the state and society. O. M. Muzychuk, O. P. Hetmanets studied the foreign experience of regulating the gambling market (Muzychuk & Hetmanets, 2023, p. 113), D. G. Mulyavka studied the issue of harmonization of the legislation of Ukraine and the legislation of the EU in the matter of legal regulation of the gaming business market (Mulyavka, 2016, p. 62), I.V. Sergiyenko, I. Yu. Fomin and R. B. Khorolsky studied European experience (Sergiyenko, Fomin & Khorolsky, 2015, p. 67). All these studies show us how the gambling market can be organized after the war, but none of them analyzes the impact of the war on the development of the gambling market, the problems that arise in connection with hostilities, and their impact on investment attractiveness.

When exploring the future, one cannot forget about the past as a basis for further development, therefore it is very important to study the domestic experience and history of regulating the gambling market, in this part there are some important works: E. Yu. Lukash and B. M. Burlakov studied gambling experience in Ukraine (Lukash & Burlakov, 2020, p. 265). A. A. Bazhenova investigated the licensing of gambling and lotteries in Ukraine (Bazhenova, 2017, p. 100). Z. M. Toporetska considers public management of gambling, but she didn't pay attention to its attractive investment (Toporetska, 2022).

One of the main problems of the functioning of the legal gambling business remains the existence of the illegal gambling business, because the greater the prevalence of the illegal business, the less attractive the legal gambling business is for investors. In addition, the illegal gambling business causes serious harm to players in the form of gambling addiction and negatively affects the mood of society, which often leads to its radical ban in the state (which was the case in Ukraine in 2009). Therefore, when assessing the attractiveness of investment in the gambling market, it is important to pay attention to the state of the fight against the illegal gambling business and the tools to protect society and players from the negative impact of gambling. Some works are devoted to the fight against illegal gaming business and protection of players' rights. They are detrimental to this article, as the prevalence of illegal gambling greatly affects the attractive investment of legal gambling. For example, N. A. Luhina, A. Kitun considered a person's gaming addiction in the context of recognizing him as a victim of the crime of engaging in the gambling business (Luhina & Kitun, 2019, p. 137). Z. M. Toporetska proposed to single out the identity of the victim in the contribution of the forensic characteristics of employment in the gambling business, if it is classified as a crime against public order and morality, and not as a crime in the field of economic activity (Toporetska, 2011, p. 112). N. O. Petrychko also considers it necessary to consider the victim of the gambling business (Petrychko, 2010, p. 104), M. M. Pogoretskyi and N. V. Nestor again raised the issue of the need to ensure the protection of the player's rights in illegal gambling and the impracticality of bringing him to administrative responsibility for participating in illegal gambling (Pogoretskyi & Nestor 2024, p. 279). M. A. Pohoretskyi and Z. M. Toporetska consider the investigation of gambling and focused attention on effective ways of combating the illegal gambling business, especially in the context of organized crime (Pohoretskyi & Toporetska, 2015, p. 250).

V. M. Vazhynskyi considered the issue of the activities of institutional investors in Ukraine, where he partially considered the issue of protecting public interests when investing in harmful activities, such as the production of alcohol, tobacco, gambling (Vazhynskyi, 2024, p. 218).

However, currently there are no special Ukrainian works about the assessment of the investment attractiveness of the gaming business market in Ukraine, both in war conditions and later in the period of post-war recovery and reconstruction.

Methodology

A method of comparative analysis to study scientific works that are devoted to various aspects of legal regulation of gambling business and to highlight the main problems that stop the investor today in making investment decisions. The comparative-legal method was used for establishment of legal grounds and legal mechanisms for organizing and conducting gambling in Ukraine, payment of license fees, payment of taxes, fulfillment of other requirements that require the expenditure of the investor's funds. Hermeneutic method allowed to study the requirements of regulatory acts (codes and laws) that set mandatory license payments and the gaming business taxation system in Ukraine. These methods were chosen by the authors as the key methods, which allowed them to study the norms of Ukrainian legislation, which are the legal basis for

organizing and conducting a gambling business, and subsequently, using other methods, to evaluate the market in terms of positives or negatives for potential investors.

A method of system analysis provided a systematic view of the costs that arise at the time of organizing a gambling business (licensing and capital expenditures), the costs that arise during its operation (taxation and mandatory regular payments) and the system of military risks that arise for different types of gambling business (land based and online). The method of systems analysis allowed the authors to provide substantiated comprehensive conclusions considering the system of factors that influence the investment attractiveness of the gambling market.

Formal and logical (synthesis, analysis, deduction, analogy) methods were used to formulate final research conclusions and provide proposals for potential investors and the government. Thus, the analysis method allowed decompose the gambling market into separate parts (land-based business and online business), as well as into separate licensed types of activities, which ensured the complexity of the scientific research. The synthesis method ensured the study of the object of research in its integrity, in the unified and interconnectedness of its parts and allowed to ensure the comprehensiveness and objectivity of the scientific research. The deduction method ensured the formulation of conclusions from the general analysis of market indicators to specific proposals for potential investors. The analogy method allowed the authors to show examples of foreign experience in regulating the gambling market and, by analogy, apply individual proposals to the Ukrainian market.

Economic analysis, absolute and comparative advantages and statistical methods were used by the authors to analyze the benefits and losses of a potential investor from investing in the gambling business and to formulate conclusions about the profitability of the gambling business. These methods ensured the accuracy, correctness, and reliability of the calculations performed by the authors.

The data for the study was obtained from official government sources, data from CRGL reports, official media reports, as well as by researching other scientific sources and authors' works, which are the basis of this study, which ensured the reliability and completeness of the study.

The use of the various methods described above, official state documents and data from official sources, as well as scientific works mentioned in the study in the complex allowed us to ensure compliance with ethical considerations in this study. The authors did not collect and store personal data, and for substantiation used depersonalized data on indicators of gambling market turnover and tax revenues, as well as data from open resources to analyze the structure of the gambling market.

Results and Discussion

This study has certain limitations, as the gambling market in Ukraine started operating in 2021, so the data study is limited to the period from 2021 to the present, and military risks were assessed for the period from the beginning of the full-scale invasion, 2022, to the present. The authors were also limited to the general statistics on total turnover and total tax revenues received from the tax service upon their requests and were unable to obtain such data for each gambling business organizer to examine revenues by the business sector in more detail.

Economic indicators of the gaming business market in Ukraine

In 2021, gambling organizers paid 204 million in taxes to the Ukrainian budget.

The total turnover in the gaming business market in 2022 amounted to UAH 14 billion. For the entire year 2022, the amount of taxes on the gambling business amounted to UAH 730.9 million. The incomes of the leaders of the gaming business in Ukraine for 2022 amounted to UAH 1.9 billion.

The total turnover in this area in 2023 increased to UAH 207 billion. For 2023, the gaming business paid UAH 10.4 billion in taxes. The incomes of the leaders of the gaming business in Ukraine for 2023 increased 28 times, to 54.9 billion UAH.

Gambling organizers paid 13,5 billion UAH in taxes to the Ukrainian state budget in nine months of 2024, which is more than 2 times more than in the same period last year.

Table 1.
Tax revenues from gambling operators

Year	2021	2022	2023	9 months 2024
Revenue, million UAH	204	730,9	10400	13500

Source: Authors requests to the Tax Service of Ukraine.

This shows that the potential of the market does not decrease, despite the military actions. Therefore, the gaming business market can be attractive for investors already today.

Today, the market is represented by 3 organizers of bookmaking activities, 2 organizers of poker games on the Internet, 19 organizers of casinos on the Internet. As for the terrestrial market, 13 licenses were issued for gaming machine halls (each allows to open to 5 halls) and 4 licenses for terrestrial casinos. With the start of hostilities, many licenses were canceled in connection with the closure of land-based businesses, as well as with the confirmation of the facts of the connections of gambling organizers with the aggressor country (Gambling and Lottery Regulatory Commission, 2024).



Diagram 1. Structure of the gambling market in Ukraine in 2024 (by type of games)

Source: Gambling and Lottery Regulatory Commission (2024).

The structure of the market for 2024 looks like this: SpaceX – 50.9% of the market; Favbet – 17.8%; Ukr Game Technologies - 6.6%; Slot YU - 6.2%, Vbet - 5.6%. That is, these top-5 organizers occupy 87.1% of the entire gaming business market. All niche organizers occupy less than 5% of the market each (Opendatabot, 2024).

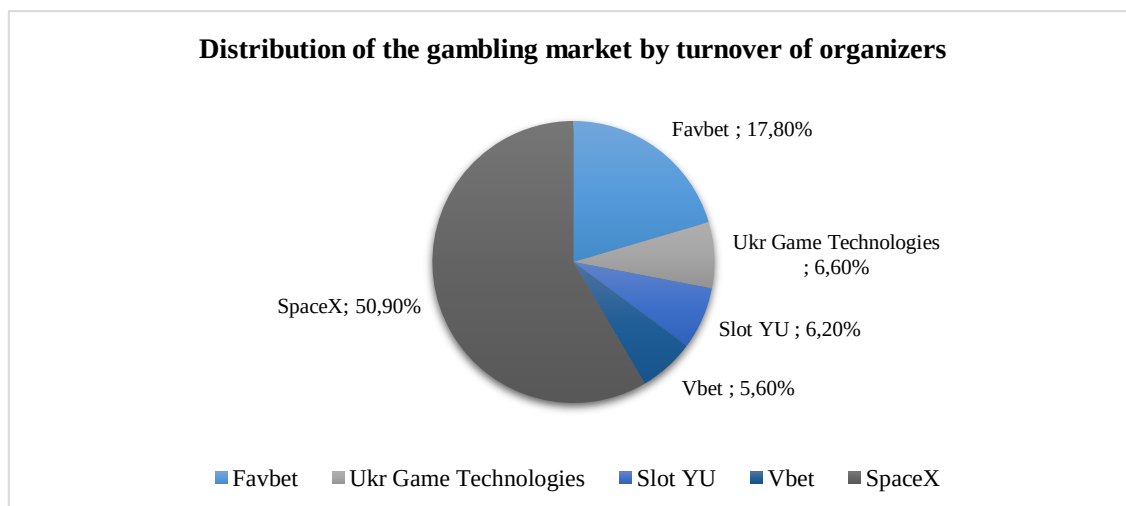


Diagram 2. Distribution of the gambling market by turnover of organizers

Source: Opendatabot (2024).

The diagrams show that although quite a few licenses have been issued for various types of gambling businesses, the market is concentrated in the hands of a few companies, so the market is not oversaturated and there is potential for new players to enter the market. In addition, the constant increase in organizers' turnover and the increase in tax revenues from this type of business indicates the economic potential of the market even in the absence of tourists in Ukraine, and therefore, after the end of the war, the market volumes will continue to grow. Since the law does not set a maximum number of licenses, the potential for expanding the gaming business market remains quite high.

Official costs for starting a business in Ukraine (license fees)

Law No. 768 stipulates that all organizers of gambling games must obtain a license for a certain type of activity, and for land-based establishments - also for gaming equipment. All licenses for the organization and conduct of certain types of gambling, for which the state has set a fee, are issued for 5 years (Law No 768-IX, 2020).

Bookmaking activity: the cost of the license is the equivalent of about 3 million euros per year (before the commissioning of the State Online Monitoring System (SOMS). Then it will be about 1 million euros. In addition, for each land-based bookmaker point in the event of its opening) it is necessary to pay about 5 thousand euros per year.

Poker on the Internet: the cost of a license is about 160,000 euros per year. Internet casino: the cost of the license is about 660,000 euros every year before the commissioning of SOMS, then it will be about 220,000 euros per year.

Land casino: to open a casino in Kyiv, the cost of a license is equivalent to about 2 million euros per year, for other cities - about 1 million euros per year. In addition, a casino in Kyiv (a city with a population of more than 500,000 people) must have at least 10 gaming tables, including 2 with a roulette wheel, and at least 50 slot machines. All this equipment requires minimum license payments in the amount of about 350,000 euros per year.

Gaming halls: a license for a year is about 250 thousand euros, but it allows you to open 5 gaming halls. At the same time, each hall should have a minimum of 50 machines, and a total of no more than 250 machines. The cost of a license for one gaming machine is about 3,000 euros per year (before SOMS is put into operation).

In neighboring Poland, the cost of a land-based casino license is less than \$500,000. USA per year. In Romania – 115,000 euros per year. for casino. In Croatia, 66,300 euros for one land-based casino. In Bulgaria, 18,000 Euros are charged for processing an application and 18,000 for issuing a license. In Moldova, only gambling tables are placed in casinos. The cost of the license forms the cost of individual licenses according to the number of tables and is about 7,000 euros for a gaming table with roulette and 31,000 euros for other gaming tables (Toporetska, 2023).

As you can see, it is quite difficult for Ukraine to compete with neighboring European countries in terms of the cost of licenses. Therefore, from the point of view of the cost of licenses, the gambling business market is not attractive for investors.

However, separate attention should be paid to the possibility of obtaining free investment licenses, which is likely to be of interest to potential investors. The legislation provides for obtaining a free license for 10 years in two installments: the implementation of separate investment projects for the organization and conduct of casino gambling by decision of the Cabinet of Ministers of Ukraine, or the construction by the applicant of a five-star hotel complex with a room base of at least 200 (two hundred) rooms (in the city of Kyiv) or 150 (one hundred and fifty) rooms (in other cities), and gives the right to organize and conduct gambling games in casino gambling establishments located in such a hotel complex. However, the license is valid from the moment of its receipt, and the construction of a hotel or the implementation of another investment project takes time, therefore, we believe that it is possible to talk about the use of such a license for about 5 years. However, this still allows the investor to "save" 10 million euros in Kyiv and 5 million euros in other cities if they open a land-based casino. Investment licenses may be of interest to investors in the period of post-war reconstruction and reconstruction of cranes, because today the risks of building new facilities are quite high.

Model of taxation of gaming business

Having adopted the law on the legalization of the gambling business, Ukraine did not adopt the law on reforming the taxation of this market. As a result, the gaming business market is taxed at the rates and according to the model established with the adoption of the Tax Code of Ukraine in 2010, when the gaming business was banned in our country for a year and a half.

Only recently (in August of this year), point changes were made to clarify certain terms in order, as the drafters of the bill said, to improve tax administration and make it impossible for online casinos to avoid paying taxes, although they made things even more confusing. About that later. The most recent changes were made in accordance with Law No. 3325-IX dated August 10, 2023 (Law No. 3325-IX, 2023).

Slot machines must pay: income tax - 10% of revenue; 18% income tax.

At the same time, in accordance with Part 9 of Art. 22 of Law No. 3325-IX in slot machines it is forbidden to set the total winning percentage below 90%. Therefore, a legal organizer of gambling games in slot machine halls must allocate 90% of the proceeds to winnings, and 10% to taxes. That is, money to pay for a license, pay wages to employees, buy gaming equipment, rent premises, etc. The organizer must bring additional. The state forces a legal business to go into the shadows and break the law, because while working legally, the organizer still owes the state money as a license fee. Or, after paying for a license, there is no money left for taxes. Or it is necessary to deceive the player and underestimate the winning percentage.

Other gambling businesses (casinos, online casinos, bookmakers) must pay: 18% income tax, reduced by the amount of winnings paid out, and 18% profit tax.

Taxes on winnings: set at the rate of 18% personal income tax and 1.5% military levy, regardless of the amount of winnings and regardless of the deduction of game expenses. That is, the player, even if he won less than he lost before, pays 19.5% of the taxes on the entire amount. Therefore, today it is more profitable for a player to play illegally, because he does not pay taxes there (Toporetska, Shcherbyna & others, 2024, p.245).

Thus, until the gambling tax reform is carried out, the land-based gambling business will not be profitable for foreign investors. You can expect to invest only in online casino activities and bookmaking activities also on the Internet. However, the reform of the gaming business taxation system can hardly be expected soon, because in the conditions of war the state is looking for money to support its existence and there is a tendency to increase rather than decrease taxes and, accordingly, to expand rather than narrow the tax base.

Military risks of gambling business in Ukraine

For the gambling business, war is not a favorable event for business development or expansion. We see the following main risks:

- 1) Security risks for land-based gambling establishments, risks of destruction or destruction of establishments. However, land-based gambling establishments continue to operate in the west of our state, which is safer;
- 2) A significant decrease in tourism, which was the main consumer of high-class hotel services and ground casino services. The relationship between tourism and the development of the gambling market was studied in detail in their works by V. Sergiyenko, I. Yu. Fomin and R. B. Khorolsky (Sergiyenko, Fomin & Khorolsky, 2015, p. 67), as well as O. M. Muzychuk, O. P. Hetmanets (Muzychuk & Hetmanets, 2023, p. 113);
- 3) The curfew introduced in Ukraine affects the work schedule of land-based gambling establishments;
- 4) Instability of legislation, risks of prohibition or restriction of business. Although Law No. 768-IX guarantees the "non-deterioration" of the status of gambling organizers, today there is talk of the dangers of gambling for military personnel and additional restrictions are being put in place for conducting this business. This problem has been the subject of almost the greatest attention by Ukrainian scientists in different years, in particular: K. V. Profatilo (Profatilo, 2023, p. 144), O. D. Kostyuchenko (Kostyuchenko, 2024, p. 240), E. Yu. Lukash and B. M. Burlakov (Lukash & Burlakov, 2020, p. 265). A. A. Bazhenova (Bazhenova, 2017, p. 100). Z. M. Toporetska

(Toporetska, 2022). Unfortunately, it exists regardless of the war, but during the period of hostilities it becomes significantly more frequent, since inconsistent regulatory and legal acts are adopted very quickly and thoughtlessly, both regarding the regulation of the gambling market (restrictions on advertising, restrictions on the rules of the game), and regarding the taxation of business activities in general (currently we are talking about increasing taxes for almost all types of business), which will lead to an increase in the price of almost all goods and services and, of course, will affect the profitability of the gambling business. Therefore, it is not excluded that, in order to protect society in wartime, legislative changes may be adopted regarding a significant restriction or even a ban on the gambling business;

- 5) Cyber security (Vazhynskyi, Pohoretskyi & others, 2024, p. 77): Law No. 768-IX stipulates that all technical means of online systems of gambling organizers must be located exclusively on the territory of Ukraine, however, Ukraine is constantly exposed to various cyber-attacks, and therefore there is a rather high risk of leakage of personal data of players and possession of these data by the country – aggressor.

Conclusions

The gambling business market has always attracted the interest of investors due to its high profitability compared to other types of business. The data obtained and analyzed by the authors on the volume of the gambling market, as well as the volume of tax revenues to the budget of Ukraine, indicate that even during the war, the gaming business market in Ukraine shows constant growth.

At the same time, there are risks that make it difficult to attract foreign investment in the gaming business. First, this is a significantly overestimated cost of licenses for the organization and conduct of gambling compared to neighboring countries, Ukraine has one of the highest license fee rates. The indicators of the cost of a license in Ukraine and neighboring countries analyzed by the authors indicate that the inflated cost of a license may be an obstacle for potential investors to decide to start a business in Ukraine, rather than, for example, in Bulgaria, Moldova, or Poland. However, there is an opportunity to obtain free investment licenses, which may be of interest to potential investors after the end of hostilities. However, the downside is that in Ukraine this possibility is only provided for in legislation. In practice, it has never been implemented, so an investor may encounter difficulties in obtaining such a license.

A serious obstacle for investors is the imperfect system of gambling business taxation, which leads to the spread of illegal gambling business in the country. You should not expect an improvement in the tax model for the gaming business in wartime, because the state's priority is to increase tax revenues. However, we consider further scientific research on the relationship between the tax rate and the volume of gambling markets, as well as how tax increases affect the development of the illegal gambling market and investment activity in the market, to be promising, because only thorough scientific research in the future will allow us to influence the opinions of those who make decisions in the state.

The authors have defined clear security risks associated with hostilities that deter investors: the risk of destruction or damage to gambling establishments, reduced tourism, curfews, cyber security, unstable government policies, and frequent changes to martial law.

Therefore, today, only the organization and conduct of gambling games on the Internet can be a promising direction of investment. After the end of hostilities, we expect that the implementation of investment projects and obtaining free investment licenses will become attractive for investment.

We consider the investment attractiveness of the lottery market in Ukraine to be a promising area for further scientific research, as a bill is currently being considered in parliament, which is planned to open the market to foreign lottery operators. In addition, the possibility of holding interstate lotteries, which are very popular and successful in the world, as they bring more profits than national lotteries, has not yet been realized in Ukraine.

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Publishing podcasts: an analysis of the innovation component of the Ukrainian market

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Abstract

The article is devoted to identifying the podcast activity of Ukrainian publishers as an important innovation component of their marketing activities. The objective of the article is to study the level of podcast activity of Ukrainian publishing houses and to analyze the thematic diversity of domestic publishing podcasts as an aspect of the innovative component of the publishing business. The 130 Ukrainian publishing houses were analyzed to determine their podcasting activity by formal and content features. It has been found that only 8 publishers create their own podcasts (mostly 1-2 podcasts from the publishing house; a total of 14 podcasts, 163 episodes). The methodological basis of the study is content analysis, methods of generalization, comparison, analysis, and synthesis. The study found that publishers are the most active: Laboratory (podcasts such as "Laboratory of Senses" that includes 22 episodes;

Анотація

Статтю присвячено виявленню подкаст-активності українських видавництв як важливої інноваційної складової їх маркетингової діяльності. Мета статті – дослідити рівень подкаст-активності українських видавництв та проаналізувати тематичне розмаїття вітчизняних видавничих подкастів як аспект інноваційної складової видавничого бізнесу. Проаналізовано 130 українських видавництв для з'ясування їхньої подкаст-активності за формальними та змістовими ознаками. Виявлено, лише 8 видавництв, що створюють власні подкасти (здебільшого 1-2 подкасти від видавництва; усього 14 подкастів, 163 епізоди). Методологічною основою дослідження є контент-аналіз, методи узагальнення, порівняння, аналізу, синтезу. Лабораторія (подкасти «Лабораторія сенсів» — 22 епізоди; «Лабораторія нонфікшн» — 26 епізодів); Астролябія (подкаст Радіо «Астролябія» — 32

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“Laboratory of Nonfiction” - 26 episodes); Astrolabe (podcast of Radio “Astrolabe” with 32 episodes); Dukh i Litera (podcast “Laboratory: 1000” including 4 episodes; “Dukh i Litera: Podcast” – 20 episodes). The overwhelming majority of the analyzed episodes in all podcasts (58%) by category are devoted to discussing books published by publishing houses, in particular in the form of conversations with translators, publicists, and editors; 27% of them are episodes that do not deal with book publishing. Literary and literary-related topics are devoted to 8% of podcasts; authors’ creative paths, genres, etc. are covered in 7% of podcasts.

Keywords: innovation, publishing business, publishing house podcasts, literary podcasting, podcast topics, online activity.

Introduction

Today, both in the world and in Ukraine, the number of podcasts is actively growing, which means a series of conversational audio/video recordings that are united by a certain idea and distributed on the Internet. For example, Miskyi & Sokolenko (2024) underline statistics by the manager of the MEGOGO AUDIO platform K. Kotvitska about posting 770 Ukrainian podcasts on the platform by May 2024, 200 of which were created over the last year. Today, podcasts are able not only to meet the cognitive needs of the audience, but also to become an effective tool of image advertising that encourages various media to produce their own podcasts. Podcasts can also be effective in promoting publishing products and services, as evidenced by the European experience. Thus, studying the podcasts of European publishers, Kosheliuk & Blahovirna (2021) summarize: “an audio podcast performs the function of image advertising, creates a positive impression of the publishing brand, publisher, encourages people to listen, return, and recommend to friends,” which allows us to perceive podcasts as a promising marketing tool for Ukrainian publishers, who are mostly suffering from the consequences of the war and need public attention to continue their activities. Unfortunately, the extent to which Ukrainian publishers are involved in podcasting is currently unknown. According to the analysis of scientific sources below, there has been no scientific research aimed at identifying the number and content of podcasts by Ukrainian publishers, which makes the proposed study relevant. After all, the analysis of existing podcasts by publishing houses will allow to identify free niches (unreported/unpopular topics or unused forms) and in the future improve communication with listeners both for those publishers that are actively creating podcasts now and for those who are just going to create their own podcasts, avoiding repetition of existing formats.

Literature Review

A review of scientific sources has shown that the most relevant to the research topic is the article by Kosheliuk & Blahovirna (2021) about analyzing audio podcasts of European publishers as a type of image advertising. For the most part, Ukrainian researchers concentrate their attention on the following problems: the classification of podcasts is studied by Bulakh (2023), meanwhile Mudra & Majchrowska (2023), Naumenko (2022) studied thematic and genre diversity of podcasts’ different types. The detailed research of advertising in podcasts was highlighted by Bulakh, Kulikova, Martiukhyna, Karpenko, & Putsiata (2023). For example, the types and genres of media podcasts are considered by Mudra & Majchrowska (2023). Naumenko (2022) analyzes the thematic range of Ukrainian audio podcasts, paying attention to podcasts created by various media, and Kovtun (2023) examines the thematic and genre diversity of Ukrainian literary podcasts in general, underlining that “the most productive genres were podcast shows, podcast stories, podcast conversations, and podcast interviews, while podcast reviews and podcast reviews are less common.” Havryliuk, I. (2022) concentrated her attention on studying podcasts in the system of Ukrainian Internet-media as components of mass media. Instead, foreign scholars Rime, Pike & Collins (2022) analyze the essential features of podcasting. Berry (2022) studied the differences between radio and podcasting. The boundaries between audio media products such as audiobooks and podcasts were highlighted by Garcia & Domingos (2023). Chan-Olmsted & Wang (2020) paid attention to the motives

епізоди); Дух і літера (подкаст «Лабораторія: 1000» — 4 епізоди; «Дух і Літера: Подкаст» — 20 епізодів). За тематикою, переважна більшість проаналізованих епізодів у всіх подкастах (58%) присвячена обговоренню видань, опублікованих у видавництвах, зокрема у формі бесід з перекладачами, публіцистами, редакторами; 27% - епізоди, тематика яких не стосується книговидавництва. Літературним та навкололітературним темам присвячено 8% подкастів; творчий шлях авторів, жанри, в яких пишуть тощо – 7%.

Ключові слова: інновації, видавничий бізнес, подкасти видавництв, літературний подкастинг, тематика подкастів, онлайн діяльність.

and behavior of podcast consumption, and Schlütz & Hedder (2021) – to characteristics of podcast hosts that affect the connection with listeners. Types of branded podcasts were researched by García-Estévez & Cartes-Barroso (2022), while specifics of news podcasts by Newman & Gallo (2020). Highlighting comprehensively studying literary podcasts, in particular, investigating the impact of podcasting on contemporary literary culture is devoted to works by Rubery (2023). Another aspect of the considered problem of improving students' perception and understanding of literary podcasts by listening, and offering strategies for implementing podcasts in sample lesson plans was considered by Costabile-Heming & Halverson, R. J. (2023), wherein creating podcasts in literature lessons to showcase the literary abilities of Norwegian school students was studied by Dversnes (2022).

The impact of innovations and the digital economy on the peculiarities of the transformation of business structures is analyzed by Kozlova, Herashchenko, Mazhnyk, Samsonenko, & Velyka (2024) and Drinke, Mazhnyk, Zvirgzdina, Mokiienko, Holovash, & Kryshal. (2024), but no detailed analysis of the specifics of the impact of innovations on the Ukrainian publishing business has been carried out yet.

Thus, despite the availability of scholars' interest in the classification of podcasts, their target audience, thematic and genre diversity, as well as foreign publishers' podcasts, podcasts of Ukrainian publishers have not been researched by either domestic or foreign scholars. Thus, the relevance of the study is reinforced by the existing contradiction between the growing number of podcasts in Ukraine, on the one hand, and the lack of research geared toward identifying the level of involvement of Ukrainian publishers in creating podcasts, on the other.

The objective of the article is to study the level of podcast activity of Ukrainian publishing houses and to analyze the thematic diversity of domestic publishing podcasts as an aspect of the innovative component of the publishing business.

Methodology

The methodological basis of this research is carefully structured, encompassing both content analysis and a range of general scientific methods such as generalization, comparison, analysis, and synthesis. At the very initial stage of the study, a thorough selection of publishers for detailed analysis was conducted. Only active publishers were chosen for examination – those who continued their vital work despite the challenges posed by the full-scale invasion. According to Oleksandra Koval, director of the state institution Ukrainian Book Institute, as reported by Ukrinform (2023, May 25), there are currently 560 publishers in Ukraine, yet only about 250 remain active. The key criterion for selecting these publishers was their involvement in a variety of meaningful events. Specifically, our focus was on publishing houses that persisted in their operations after the invasion, and this limitation shaped our analysis. We concentrated on the participants of the Book Arsenal and Book Country book festivals held in the spring of 2024. From the total pool of participants, we excluded 20 who were not directly positioned as publishers – these included cultural projects, individual authors, bookstores, and others who were irrelevant to our study. Of the remaining 178 participants, 48 were involved in both festivals, leaving us with a refined group of 130 publishers for scrutiny. This included 122 book publishers, 3 comic book publishers, and a small group of publishers specializing in cards, board games, puzzles, and notebooks (Chitomo, 2024).

In the second stage of research, a systematic search for podcasts within these publishing houses was conducted, with a particular focus on audio and video recordings labeled as “podcasts.” We carried out direct searches on the publishers' websites (notably, platforms like Laboratoria and Vidkryttia) and expanded our search to the widely popular YouTube platform. This was informed by a compelling study conducted by Public Broadcasting specialists in mid-2023, which found that 69% of surveyed consumers regularly engage with podcasts. By integrating results from these platforms, we were able to compile a substantial sample of podcasts for further analysis. Notably, a distinct set of 15 episodes from various podcasts about publishing houses was also identified, showcasing the important role of podcasts in promoting publishing.

The third stage saw us meticulously examining the content of the selected podcasts using content analysis. Our final sample comprised 14 podcasts produced by publishing houses (spanning 163 episodes), as well as 15 episodes from podcasts about publishing. The main goal of this content analysis was to explore the thematic and genre orientation of each episode, and to examine their frequency, number, and duration. We carefully defined our units of measurement – episodes of the chosen podcasts – and our units of analysis,

which included themes, the form of communication (story, conversation, interview), episode counts, and episode lengths (extra-long, long, medium, short). Specific questions we aimed to answer were: “What topics are discussed?” and “Which genres are most prevalent?” During this process, we carefully recorded the features of each episode, categorizing them by topic (e.g., discussions of individual publications, authors' careers, literary themes, and topics unrelated to publishing) and format (e.g., stories, conversations, interviews). We also noted the recording method (audio podcast vs. video podcast) and the duration of each episode.

Furthermore, in analyzing the podcasts about publishing houses, we paid particular attention to the identity of the podcast authors – whether they were media representatives, NGO affiliates, or independent podcasters – and the specific topics they tackled. These results were systematically recorded in a descriptive table, which allowed us to later generalize our findings in a coherent manner.

Finally, in the fourth stage, we embraced the methods of generalization, comparison, and synthesis. The generalization method was essential when reviewing the existing literature related to the research problem, while the comparative method enabled us to highlight the distinctive features of the various publishers' podcasts. The synthesis method proved invaluable in drawing comprehensive conclusions from the research, helping to clarify the broader implications of our study.

Results and Discussion

As a result of the research, it was found that out of the 130 analyzed publishers that participated in Book Arsenal 2024 and the Book Country festival, only 8 publishers have their podcasts. These are Antikvar, Astrolabe, Vidkryttia, Dukh i Litera, Laboratory, Ranok, and Projector Publishing, Linguist. UKRAĬNER also has its podcasts; however, this platform is better known as a socio-cultural multimedia Ukrainian studies project, with materials based on its expeditions. Therefore, its podcasts are better to analyze as media podcasts. Despite the publisher has been within the project since 2021, it was not possible to identify that specific podcasts were initiated by UKRAĬNER. Similarly, it was not possible to identify podcasts specifically created by the Kyiv-Mohyla Academy publishing house. The website of the YZHAK publisher has a “Podcasts” section that is under development, but the fact of its existence has perspectives of creating podcasts by this publisher in the future. The mentioned publishers' podcasts except for “Zmist” by Projector Publishing are hosted on the YouTube platform, and some podcasts have more episodes on SoundCloud (e.g. “Antikvar”, “Laboratory Non-Fiction”). The podcast of the “Linguist” publisher was found through the Google search engine. The podcasts of the listed publishers were analyzed taking into account formal criteria such as a number of podcasts/episodes, duration of episodes (long; medium; short); recording method (audio podcast; video podcast) and content including thematic, genre orientation of the podcasts, as well as communication format between participants.

The analysis revealed that publishers mostly create 1-2 podcasts such as Vidkryttia, Astrolabe, Ranok, Projector Publishing. Wherein Linguist has 1 podcast; Dukh i Litera and Laboratoria – each have 2 podcasts except for Antikvar which has 5 podcasts. Despite the number of podcast titles does not provide a complete picture of the podcast activity of publishers. A more accurate indication of this activity is the number of episodes (as of July 25, 2024) in each podcast. The data is presented in the diagram (Fig. 1).

As shown in the diagram, Antikvar has published a total of 12 episodes in 6 podcasts including the following ones:

- “Herb and Creators”, 3 episodes (Savchuk, 2021), “Medicina Mobilissima”, 4 episodes (Sherman, 2021a), with durations ranging from 6 to 17 minutes;

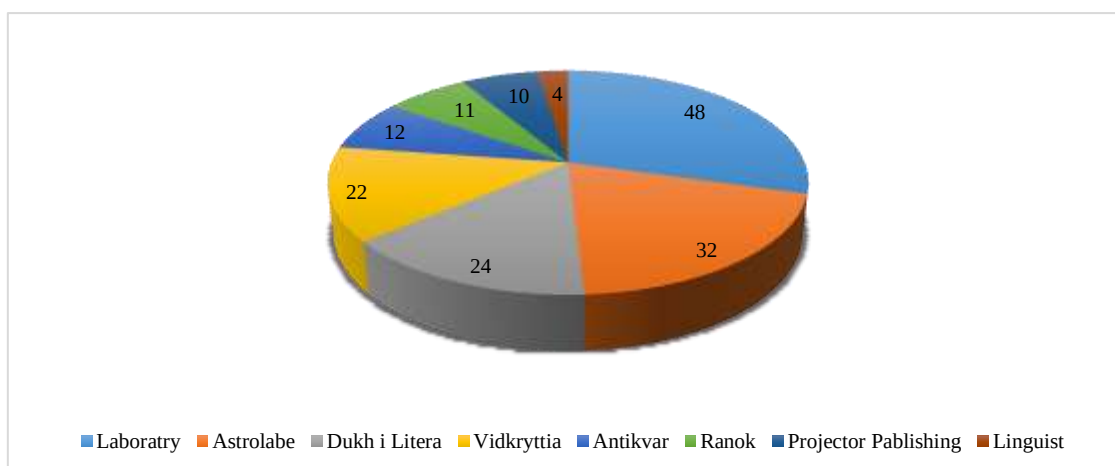


Figure 1. Podcast Activity of Publishers by Number of Episodes, the number of episodes as of July 2024.

Series of podcasts dedicated to thematic issues of the Antikvar magazine such as “Life Among Icons”, 1 episode, 37 minutes (Sherman, 2021d), “Museum of Costume and Style by Viktoria Lysenko”, with episodes such as “Museum Items on the Cover of the Magazine with Viktoria Lysenko Talks”, 8 minutes (Lysenko, 2021), and “Secrets of the Building Housing the Museum of Costume and Style with Mikhail Kalnytsky Talks”, 13 minutes (Kalnytskyi, 2021) which have a total of 4 episodes, and “Igor Globa on Limited Editions of Antikvar”, 1 edition, 22 minutes (Sherman, 2021b), “Antiques – or is it the fun of old snobs?” (Sherman, 2021c) has 1 issue with 4 episodes in total, only one of which is medium in length, while the rest are short.

In contrast, the Laboratory publisher has produced two podcasts with a total of 48 episodes, in particular, “Laboratory of Senses” (Martynov&Panasiuk, 2021) with 22 episodes and “Laboratory Non-Fiction” (Panasiuk, 2023) with 26 episodes, each episode approximately 1 hour long. Astrolabe (Mykhalevych, 2023) has released 32 episodes (averaging 1 hour per episode), Dukh i Litera (Finberh, 2024) has 24 episodes, Vidkryttia “Open Publisher” (Yakuba, 2024) has 22 episodes (1 hour per episode), Ranok has 11 episodes of the “BookTalk: Morning Shelf” podcast (BookTalk, 2024) – 11 episodes, and Projector Publishing podcast “Content” (Kaporikov, 2024) – 10 episodes (approximately 1 hour each). The Linguist publishing house (Sverdiuk, 2024) has 4 episodes of the “Linguist Talks” podcast available for free (1 hour to 1 hour 10 minutes each).

The Komora publisher has uploaded a video with a master class with Oksana Zabuzhko on the SoundCloud platform, but the video was not labelled as a podcast, so it is not reflected in Figure 1. In terms of recording format, we can state. Those audio podcasts are predominant (Antikvar, Laboratory, Projector Publishing, Astrolabe), while Linguist, Vidkryttia, and Ranok produce video podcasts. The publisher Dukh i Litera offers both audio and video podcasts, with a predominance of the audio format. Regarding the communication style, it is concluded that dialogue podcasts are the most common among the analyzed episodes (Ranok, Dukh i Litera, Vidkryttia, Projector Publishing, Linguist). However, monologic (Antikvar) and polylogic (some episodes of “Laboratory of Senses” and “Dukh i Litera: 1000”) podcasts are also present. In terms of communication format, they mainly include conversations, interviews, narratives, and reviews. The most prolific publisher in terms of the number of episodes created is Laboratory. It has two podcasts: “Laboratory of Senses” (22 episodes) and “Laboratory Non-Fiction” (26 episodes). In “Laboratory Non-Fiction,” discussions are sparked by specific issues raised in books published by the publisher, but the conversations extend beyond the books themselves, turning into educational journeys. For example, in episode 18 (Panasiuk, 2023), Valeriy Kalnysh speaks with Vadim Granovsky, founder of Coffee in Action, discussing Augustin Sedgwick’s book “Cavalend: Who, How, and Why Invented Our Favorite Drink,” which addresses contemporary coffee production issues, coffee consumption culture, and more. The episodes of the Astrolabe Radio podcast take an interest in building dialogues and conversations with translators and artists around the books of the publisher, discussing aspects of writing conditions, historical context, and its impact on the author’s personality. Although the first issue of the Dukh i Litera’s podcast addresses book publishing during wartime, the majority of its episodes focus on discussions about books (15 episodes), a two-volume work of a specific author’s book (1 episode), a book series (1 episode); and the release of an almanac (1 episode). In three issues of 4th podcast “1000 and 1 Book” of the publisher, the series of books are analyzed dedicated to children’s

publications, historical books, and books on Judaica. The first issue of this podcast reviews the repertoire of books published by the publisher throughout its history.

The Ranok publishing house positions its podcast “BookTalk Morning Shelf” (BookTalk, 2024) as “a space for interesting conversations and discussions about the literary world with talented Ukrainians”. In interviews, the podcast discusses different topics including the following ones:

- Specific creative journey of guests which are book authors (Dara Korniy, Andriy Kokotyukha, Tanya Hud, Yulia Vrotna, Hanna Bulgakova, Olga Kupriyan, Yulita Ran, and others);
- The genres in which authors write (detective, fantasy, non-fiction);
- The target audience (children’s literature);
- The authors’ books themselves concerning issues devoted to their creation history, writing preconditions, etc.

Such communication format brings the author closer to the target audience, partially revealing the mystery of creativity, which makes the listener involved in this mystery.

The dialogues in the “Vidkryttia Vydavchynia” (Open Publisher) podcast of the Vidkryttia publishing house are structured as casual conversations between the host and the co-founder of the publishing house Natalia Vasilyeva with invited guests concerning literary, literary-related, and personal topics.

The “Zmist” (Content) podcast of Projector Publishing is dedicated to culture and creative industries. The inspiration for the first season of the “Zmist” podcast focused on freedom became the art book “Telegraf. Freedom”, published by the house. Thus, discussions in all episodes revolve around the concept of freedom in music, architecture, cuisine, advertising, etc.

The “Linguist Talks” podcast of the Linguist publishing house is less about the books themselves and more about the teaching process. Topics discussed in the podcast include the following ones: “How teachers choose textbooks: what guides teachers in selecting textbooks”; “What makes us teachers”; and “How teachers establish personal boundaries”.

As shown in Fig. 2, the majority of episodes in publishing podcasts (58%) are dedicated to discussions about the publications released by the publishers. These discussions often involve conversations with translators, publicists, editors, and authors. The topics covered include:

- The history and background of individual books, book series, journals, or anthologies. For example, the episode “Exhibition 1000 and 1 Books” of the Dukh i Litera publisher explores the publisher’s repertoire throughout its history (Davidenko, 2024);
- Books published over a specific chronological period. For example, the episode “Open Publisher: From New Year to Arsenal: A Big Conversation About the Books of Vidkryttia Vydavchynia (Yakuba, 2024) covers the publisher’s works released between these events;
- Discussions of certain book genres (fiction, non-fiction, and historical ones);
- Meetings with authors discussing their creative paths, genres they write in, and the specifics of writing for certain target audiences. Most episodes of “Morning Shelf” (7%) fall into this category.

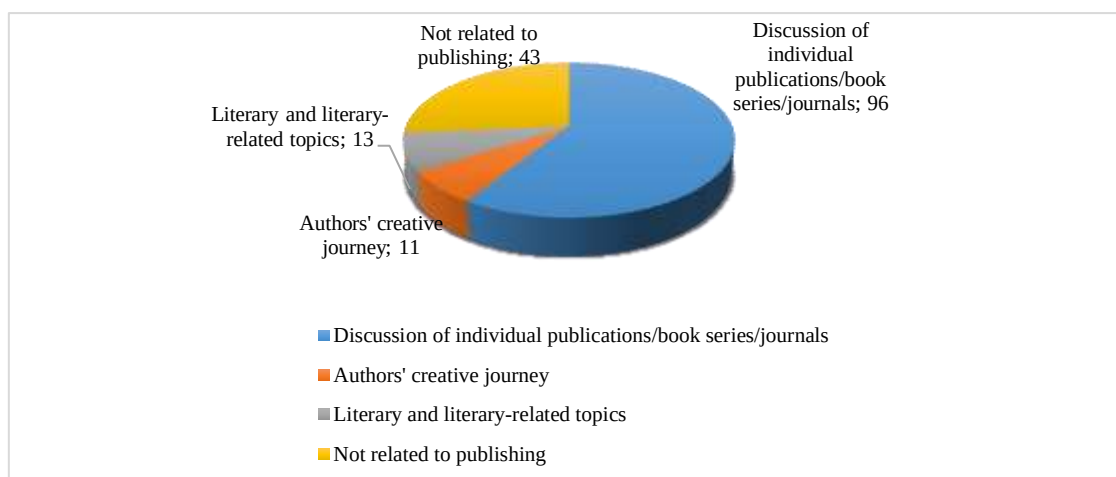


Figure 2. Thematic Focus of Publishing Podcasts, the number of episodes as of July 2024.

In addition to book-related topics, some podcasts also address related literary issues (8%) including the following ones:

- Editorial and publishing preparation of works (e.g. “Vidkryttia Vydavchynia” (Open Publisher, (Yakuba, 2024);
- Translation activities (e.g., Astrolabe);
- Reading activity of compatriots and book publishing during wartime (e.g. “Book Publishing During War: A Conversation with Vladia Davidiuk and Leonid Finberg” by Dukh i Litera publisher, (Davydenko, 2023).
- Publishers’ attitudes towards book adaptations (e.g. “Vidkryttia Vydavchynia” (Open Publisher).

A significant portion (27%) of episodes is not directly related to book publishing including the following:

- Episodes of the podcast “Zmist (Content)” (Kaporikov, 2024) by Projector Publishing devoted to discussing the concept of freedom in various forms;
- Podcasts by Antiquar focusing on topics concerning the history of heraldry and domestic medicine through artefacts;
- Episodes of “Laboratory of Senses” (Martynov & Panasiuk, 2021) covering political journalism, contemporary art, the idea of the Ukrainian state, etc.

It can be confidently asserted that publishing podcasts realize not only informative but also promotional and image-building functions based on the publisher’s authority, attracting a targeted audience, and discussing the publisher’s products that help increase reader interest.

Even though most publishers do not have their podcasts, the research revealed that 15 of them (Vydavnytstvo Starogo Leva, Nebo Booklab Publishing, Vivat, KSD, Knyholov, Irbis, ArtHuss, A-BA-BA-HA-LA-MA-HA, Bilka, Folio, Vikhola, Rodovid, Smoloskyp, Safran, and Maliopus) have managed to promote their activities through various podcasts (often literary, but not exclusively), participating as guest speakers.

It is noteworthy that while publishers’ podcasts predominantly feature discussions and reviews, podcasts about publishers often include interview and online meetings. The authors of podcasts that cover publishers’ activities in specific episodes include media representatives (NB, Hromadske, etc.), public organizations, and independent podcasters (writers, literary critics, etc.).

Thus, despite most publishers do not host their podcasts, podcasting provides many of them with an opportunity to remind the audience of their activities and, in some cases, “introduce” their publisher to new audiences. It is also worth noting that an alternative to podcasts today is video content published by publishers on their own YouTube channels. These channels are maintained by publishers such as Antiquar, ArtHuss, Discursus, Zeleny Pes (Green Dog), Urbino, Knygolav, Vydavnytstvo Starogo Leva, Koleso Zhyttia (Wheel of Life), and the ADEF-UKRAINA publishing house. On these platforms, publishers post

book previews, discussions with authors, translators and editors, as well as lectures, interviews, debates, meetings, presentations, etc. In this regard, Vydavnytstvo Starogo Leva is the most active one, with the highest number of views.

Thus, the research indicates that, unlike European publishers, podcasting remains an innovative activity for the Ukrainian publishing business. However, it undoubtedly has significant potential, as it serves not only informational and educational purposes but also an advertising function. This allows publishers to promote their businesses online while presenting publications through a deep exploration of the meanings that authors aim to convey in their books. Unlike direct advertising, this form of online promotion is subtle and, therefore, does not provoke rejection from the target audience. Additionally, it enables the dissemination of information about publishing products at no cost in the online environment. This transforms podcasting into an appealing and innovative means of interaction between publishers as business entities and listeners as consumers of publishing products.

Despite the findings of this study, which indicate the limited activity of Ukrainian publishers in the podcasting field, it is clear that a deeper exploration is needed to understand the factors influencing this trend. While only a small proportion of Ukrainian publishers are currently involved in podcasting, the global popularity and growth of this medium suggest that its adoption in Ukraine is likely to increase in the near future. Several factors may explain the current limitations, including technological constraints, a lack of resources, and insufficient awareness of podcasting as an effective promotional tool. By contrast, as highlighted by Kosheliuk & Blahovirna (2021), European publishers have successfully integrated podcasts into their marketing strategies, viewing them as valuable instruments for audience engagement and brand building. It can be argued that Ukrainian publishers are lagging behind their European and American counterparts in terms of podcasting activities. In these regions, podcasts serve not only as promotional tools but also as innovative platforms for building brand identity, attracting diverse audiences, and facilitating in-depth discussions about books and the publishing process. In Ukraine, however, the potential of podcasting remains largely untapped. A key reason for the limited use of podcasts by Ukrainian publishers may be a lack of understanding of their promotional and informational functions. Additionally, a digital divide between publishers could contribute to the slow uptake of podcasting. While some publishers, such as Laboratory, have already developed successful podcast formats, others may lack the technological infrastructure or expertise to create high-quality content. This reflects a broader issue in the Ukrainian publishing sector, where innovation, particularly in digital media, is less widespread compared to Western markets.

In terms of thematic diversity and content, Ukrainian publishers' podcasts largely mirror global trends, such as author interviews, genre discussions, and debates about the publishing process. However, research by Kosheliuk and Blahovirna (2021) and other scholars shows that European publishers are using podcasts as part of comprehensive content marketing strategies. Rime, Pike, & Collins (2022) stress that podcasting plays a vital role in building relationships with listeners, while García-Estévez & Cartes-Barroso (2022) emphasize the importance of branded podcasts for reinforcing a publisher's identity. These global trends are still in the early stages in Ukraine, where podcasting is yet to be fully recognized as an innovative component of the publishing business. The relatively slow adoption of podcasting in Ukraine presents both challenges and opportunities for the future of the industry.

Podcasting, as a forward-thinking media format, offers significant potential for Ukrainian publishers aiming to expand their presence in both domestic and international markets. To capitalize on this opportunity, publishers will need to make technological investments and embrace a cultural shift that views digital media as an integral part of their marketing and audience engagement strategies. The focus of our future research could therefore shift towards identifying the specific barriers preventing the widespread adoption of podcasting among Ukrainian publishers, with an emphasis on its potential role in shaping the future of Ukrainian literary culture.

Conclusions

The research reveals that currently, only a small percentage of publishers utilize podcasting as part of their innovative online activities, indicating that overall podcast activity among publishers is quite low. However, this does not imply a total abandonment of podcasts as an innovative means of online promotion for their products and services. Many publishers, such as A-BA-BA-HA-LA-MA-HA, Vikhola, ArtHuss, Discursus, Zeleny Pes, Urbino, Knygolav, and others, have episodes featured in shows by media and independent

podcasters (educators, critics, writers, etc.). Guests on podcasts that highlight publishers' activities often include the publishers' owners, editors, or managers, who typically discuss books in preparation or already published, as well as the history of the publishers and their experiences during wartime. In terms of topics, the vast majority of episodes in publishing podcasts are devoted to discussing books published by various houses, with a slightly smaller number focusing on the creative journeys of authors and literary or literary-related themes presented in the form of conversations, interviews, and so on. At the same time, there is a significant share of topics that are not dedicated to book publishing, and it is this aspect that can be attractive to advertisers, allowing publishers to raise funds through advertising or sponsored content.

The growing interest in podcasts among compatriots demonstrates the potential for publishers to establish innovative online communicative interactions that simultaneously satisfy informational, educational, and entertainment needs. This approach not only allows for a superficial acquaintance with a work but also enables a deep dive into its study, potentially leading to the purchase of the book from the publisher. This underscores both the promotional and image-building functions of publishing podcasts. Publishing podcasts are distinguished by their creators and industry classification, with most belonging to the literary sector. In addition to publishers, literary podcasts are also produced by media outlets and independent podcasters. The study of these literary podcasts represents a promising area for future research.

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Forced evacuation as a mechanism of special protection measures for children during armed conflict

Примусова евакуація як механізм спеціального захисту дітей під час збройного конфлікту

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Abstract

The article examines the compulsory evacuation of children by force (hereinafter - forced evacuation) as one of the preventive mechanisms for the implementation of special protection of children during armed conflict. This is a new mechanism introduced by the Ukrainian government in March 2023 with the aim of protecting children in the area of hostilities and armed conflicts under martial law. The authors of the article examine the procedure for making a decision on the forced evacuation of children from a particular settlement in an area where hostilities are taking place and the mechanism of its implementation. It is established that evacuation of children during armed conflicts has been implemented before. However, such evacuations were exclusively voluntary and often involved children unaccompanied by legal representatives. The 'Ukrainian mechanism' provides for the forced evacuation of children and must be accompanied by one of their legal representatives. The authors note that this mechanism has been approved at the level of the Ukrainian government (the Parliament has not yet adopted any legislative acts). A comparative analysis of the peculiarities of the legal status of a child under international and national legal acts is carried out to take into account the scope of the child's rights and obligations during evacuation. The article concludes

Анотація

Стаття досліджує обов'язкову евакуацію дітей в примусовий спосіб (далі - примусова евакуація) як один із превентивних механізмів реалізації спеціального захисту дітей під час збройного конфлікту. Це новий механізм, який запроваджений українським урядом в березні 2023 року з метою захисту дітей, які перебувають у зоні воєнних дій і збройних конфліктів, в умовах воєнного стану. Авторами статті досліджено процедуру прийняття рішення про примусову евакуацію дітей з окремого населеного пункту в місцевості, де ведуться бойові дії та сам механізм її проведення. Встановлено, що механізм евакуації дітей під час збройних конфліктів реалізовувався і раніше. Однак така евакуація мала виключно добровільний характер і зазвичай евакуювали дітей без супроводу законних представників. "Український механізм" передбачає примусову евакуацію дітей і обов'язково у супроводі одного із законних представників. Авторами звернено увагу, що зазначений механізм затверджений на рівні українського уряду (парламентом досі не прийнято жодного нормативно-правового акту). Проведено порівняльний аналіз особливостей правового статусу дитини за міжнародними та національними нормативно-правовими актами для

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that the forced evacuation of children during armed conflict is a necessary preventive mechanism to provide protection to the most vulnerable category of civilians. At the same time, the authors focus on the existing shortcomings which require further regulatory regulation.

The purpose of the article is to provide a legal analysis of the evacuation of children during armed conflict at the level of international legal instruments and at the national level, and its specific features established in Ukrainian legislation.

The methodological basis of the study are the method of systematic approach, the method of descriptive analysis, the formal legal method and the method of comparative forecasting.

Keywords: children, armed conflict, special protection, preventive mechanism, forced evacuation.

врахування кола прав та обов'язків дитини при проведенні евакуації.

У статті зроблено висновки, що примусова евакуація дітей під час збройного конфлікту є необхідним превентивним механізмом з метою надання захисту найбільш вразливій категорії цивільного населення. Водночас акцентовано увагу на наявних недоліках, які потребують подальшого нормативного врегулювання.

Метою статті є правовий аналіз евакуації дітей під час збройного конфлікту на рівні міжнародно-правових актів та національному рівні, її особливості, встановлені в українському законодавстві.

Методологічну основу дослідження становлять: метод системного підходу, метод описового аналізу, формально-юридичний метод та метод порівняльного прогнозування.

Ключові слова: діти, збройний конфлікт, спеціальний захист, превентивний механізм, примусова евакуація.

Introduction

'Every war is a war against children,' said Eglantine Jebb, founder of Save the Children. Protecting children in times of war is an extremely important task, as children are the most vulnerable to the consequences of conflict. War poses a direct threat to their lives, health, and psychological well-being, and can violate their right to education and security. Children witness cruel realities. The armed conflict affects their mental health, education and development, as many of them lose their homes, loved ones and safe environment. During an armed conflict, child protection becomes especially important, and the state, represented by authorized bodies, must use various tools to ensure their well-being.

For this reason, it is important to examine the mechanism of preventive protection of children during hostilities. One of these measures is the evacuation of children. Evacuation of children has been carried out during armed conflicts since the beginning of the twentieth century. Such evacuations were carried out on a voluntary basis and without any legal representatives. However, a number of studies have shown that this format of evacuation had negative consequences for the children's psychological and physical health because the children were without sufficient care and guidance.

Children's evacuation norms have been introduced on the international level in several legal acts. However, in common with most other international legal frameworks containing general rules and regulations, the specificity of international relations is that subjects of international law themselves play the role of guarantor of the adopted rules.

The war in Ukraine has increased the risks for children in terms of poverty, illness, family separation, loss of education, mental health, and violence, including gender-based violence. That is why the Ukrainian government introduced innovations in 2023 and implemented forced evacuation of children from the combat zone for children's protection.

The purpose of the study is to review the international and Ukrainian legal framework for the evacuation of children during periods of hostilities; analyze correlation of international and Ukrainian regulations in the field of research; outline the shortcomings in the existing mechanism for further improvement of the legal and regulatory framework.

Literature Review

Research on child protection during armed conflict is widely available. All research in this area that exists today can be grouped into the following categories. The first category is about general international and national regulation in the field of children's protection during armed conflict.

Olha Melnychuk (2022) researched peculiarities of protection of children's rights in conditions of military action and armed conflicts. The author made the conclusion that to effectively protect the rights of children in war zones and armed conflicts and children affected by them, national legislation needs to be further improved. To do this, it is necessary to develop a state program for the rehabilitation of children injured in hostilities and armed conflicts, etc.

Oksana Moroz, Valery Bondar & Yuriy Khatniuk (2023) investigated national legal acts in the sphere of children's protection during martial law. They summed up that this part of legislation is a part of Ukraine's national security. Authors also conversed about creating a register of minors living in areas where intense fighting is taking place, so that the state has the most complete information about the material and psychological needs of the most vulnerable groups of the population, such as children. This is also crucial for the implementation of the forced evacuation mechanism to fully understand the real number of children in a particular territory.

Valentyna Chernobuk (2023) outlined international legal standards for the protection of children's rights in armed conflicts, because it is the main base for formulated national regulation. The author observed the international legal framework in the sphere of children's protection during hostilities. The most interesting part of this study is also the study of the case law of the International Criminal Court on crimes against children.

The second category is about more concrete researchers, which cover the issue of evacuation of children during armed conflict. This is where it is instructive to study evacuation from a historical perspective in order to make a comparative analysis and identify proposed changes in the mechanism of evacuation of children during the war.

The widespread research in the sphere of children's evacuation is a period of the Second World War. There are several investigations of children's evacuation from different points of view. For example, Zetterqvist Nelson (2015) investigated children's evacuation from psychology and how children react to evacuation and consequences of this process. Based on the results of her research, the author found that the evacuation was carried out separately from children and parents. As a result, these children later experienced psychological health problems, as unexpected separation from their parents is a very traumatic event. Also, the further stay of such children without any of their relatives and friends had a negative impact on their psychological and physical health.

Damian Gonzalez (2021) described the process of children's evacuation during the Spanish Civil War. The author paid attention to the legal component of organizing the process of evacuation of children and their subsequent return after the end of the armed conflict. In this study, it is remarkable that the author focuses not only on the evacuation procedure during the armed conflict, but also on the stage of return of such children from evacuation.

Existing historical research suggests that states have used evacuation of children from war zones before. However, it should be noted that such evacuations were voluntary and children were evacuated unaccompanied by their parents, only in the presence of their supervisors.

Olha Melnychuk, Oleksandr Yaremenko, Tetiana Kronivets & Tetiana Overkovska (2022) were one of the first who carried out a study in the sphere of tasks before the government about protection of children's rights during hostilities. They concluded that the authorities of Ukraine have to resolve a number of current and long-term tasks. The current tasks include nearest means and remedies for protection of children who became victims of the military conflict. This includes performing highly organized safe evacuation of children from the areas of military action, repatriation of children from abroad and returning internally dislocated persons to the de-occupied territory of Ukraine, repatriating deported children back to Ukraine, and administering measures to address the basic needs of children in times of war. The long-term tasks concerning the protection of rights of children include, among others, the development of a comprehensive policy for protecting the rights of children, creating a governmental body that would perform a consolidating function in relation to the protection of children's rights, reforming the justice system in relation to children, and deinstitutionalizing the area of children's rights.

The most useful for us in this study is division government's tasks into two groups and their identification. Authors include a note on the evacuation of children and referring to this mechanism as an area of current focus.

Kateryna Rashevskya (2023) also reviewed evacuation of children during the Russian-Ukrainian armed conflict. The author concluded that children's evacuation is a legal mechanism to ensure the safety of children during armed conflict.

In general, the issue of forced evacuation of children has not yet been sufficiently researched and covered. The results of these studies indicate that the mechanism of children's evacuation requires more attention given the challenges faced by the state as a result of the armed conflict. All of the above literature makes it possible to summarize both general regulatory acts and more narrowly regulated legal acts in the issue under study. Based on which to make our own conclusions.

Methodology

The following research methods were used to conduct the study in the field of the evacuation of children during armed conflict.

The authors used the method of document analysis. First of all, the researchers analyzed international legal acts related to the topic of the study (Geneva Convention IV (United Nations, 1949), the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Additional Protocol I) (United Nations, 1977), the Convention on the Rights of the Child (United Nations, 1989), etc.) The second level of legal acts that were analyzed were Ukrainian legal acts depending on their legal force. In particular, the Civil Protection Code of Ukraine (CPC of Ukraine) (Law No. 5403-VI VR, 2013), the Law of Ukraine "On the Legal Regime of Martial Law" (Martial Law) (Law No. 389-VIII, 2015), Procedure for Evacuation in the Event of a Threat or Occurrence of Emergency (Procedure) (Resolution of the Cabinet of Ministers of Ukraine No. 841, 2013), etc. The principle of legal force was used to systematize and logically refer to legal acts.

The legislative sources of international legal acts are selected from the United Nations legislative databases. In reviewing the Ukrainian legislation, we have used legislative sources from the official open data portal of the Verkhovna Rada of Ukraine <https://data.rada.gov.ua/open/data/zak>.

Simultaneously with the analysis of regulatory acts, the authors reviewed the academic literature that formed the scientific basis of this study. This helped to analyse the evacuation of children during armed conflicts from a historical perspective. The scientific basis of the study is based on scientific publications in the field of children's protection during armed conflict in general and in particular on the evacuation of children during armed conflict. The search for scientific publications was carried out in the scientific metric databases ResearchGate, WoS and Google Scholar.

The authors used a systematic process during the writing of the article, which was manifested in reading, identifying specific provisions, and categorizing information. Based on the above, it was possible established participants in the organization of forced evacuation, in relation to whom it is carried out, and the mandatory conditions for its implementation.

As a result, it was possible to compare the existing mechanisms for evacuating children during armed conflict with the introduced 'Ukrainian mechanism' for the forced evacuation of children during armed conflict. Using the method of comparative analysis, the article highlights the advantages and disadvantages of forced evacuation of children during armed conflict.

The generalization method was applied on the basis of the comparison, which helped to formulate the relevant conclusions to the article.

Results and discussion

The issue of special protection of children at the international level was first raised in international humanitarian law (IHL) after the Second World War. In 1949, international law was marked by the adoption of the four Geneva Conventions, which became the fundamentals of IHL. One of these conventions – Convention IV, regulates the special protection of children during armed conflict (United Nations, 1949).

The category of children refers to the civilian population. However, the text of this document implies that children should be under special protection. This fundamental right stipulates that both in peacetime and in time of armed conflict, states that have signed and ratified the above convention may authorize the establishment of sanitary and safe zones on their territory and on the occupied territory. It is a mandatory requirement that these zones allow for the protection of the wounded, sick and elderly, children under 15, pregnant women and mothers with children under seven from the effects of war (United Nations, 1949).

Convention IV also provides for the guarantee of other basic rights for children at the appropriate level, such as nutrition, medical care, education and protection of victims of war, etc. (United Nations, 1949).

Children's special protection aspects are enshrined in the Additional Protocol I (United Nations, 1977). Thus, provides that children are an object of special respect and must be protected from any form of indecent abuse. Armed conflict parties shall provide them with the care and assistance they need because of their age or for another purpose (Article 77).

The main international normative instrument on the child's rights protection is the Convention on the Rights of the Child (United Nations, 1989). This international act for the first time defines general guidelines for the protection of children during armed conflict, including the following:

- Obligate themselves to respect and ensure that IHL applicable to them in armed conflicts that are relevant to the child is respected;
- Ensure that persons under the age of 15 do not take part in hostilities directly;
- Restrain from conscripting persons under the age of 15 into their armed forces;
- Adopt all possible measures to ensure the protection and care of child victims of hostilities.

In the context of all the problematic issues related to ensuring the basic life needs of every child, each state, in the presence of armed conflict, must create and implement measures for the special child protection during the hostilities, which are preventive in nature. One of the most pressing issues among the measures for the special protection of children during armed conflict is their evacuation.

The issue of evacuation of children was first envisaged in the Convention IV, which records that between the opposing sides of the conflict will attempt to negotiate local agreements for the removal from occupied or surrounded areas of the wounded, sick, infirm and aged persons, children and pregnant women, as well as for the passage of clergy of all religions, medical personnel and equipment on the way to such areas (United Nations, 1949).

Additional Protocol I pay more attention to the issue of evacuation of children. Thus, notes that no participants to a conflict should organize the evacuation of children other than its own nationals to a foreign country, except for temporary evacuation when it is required for compelling reasons relating to the health or medical treatment of the children or, with the exception of occupied territory, their safety (Article 78) (United Nations, 1977).

If parents or legal guardians can be located, their written consent to such evacuation is mandatory.

Where no such persons can be found, the written consent of the persons who, by law or custom, have primary responsibility for the care of the children is to be granted.

Each such evacuation shall be monitored by the Protecting State in consultation with the Parties concerned, namely: The Party organizing the evacuation, the Party receiving the children and any Parties whose nationals are being evacuated. In each case, all sides to the conflict shall take all feasible precautions not to jeopardize the evacuation. Simultaneously, during all cases of evacuation in accordance with the above conditions, the education of each child, including his or her religious and moral education at the request of the parents, should be guaranteed during his or her absence with the most possible continuity.

In 1992, UNHCR/UNICEF produced a publication with reflections and recommendations on the evacuation of children from areas of conflict (Ressler, 1992). In this guideline's authors analyzed the historical base of children's evacuation. Over the last 150 years, numerous evacuation programs for children have been implemented throughout the world. These evacuations have taken many forms – rescue efforts, summer holidays, temporary rest and recuperation periods, temporary asylum, long-term care. In the history of mankind, children were evacuated during the Russian Revolution (1918-1920), the Spanish Revolution (1931-1939), the Second World War (1939-1945), the Greek Civil War (1946-1949), and the Nigerian Civil War (1967-1970).

The common feature of the above evacuations was that all children were evacuated without their parents. In particular, this experience indicates that such evacuation leads to a number of negative consequences for children's health. Researchers on this issue claim that there is a phenomenon called "evacuation neurosis", which indicates that children develop neurological diseases after being separated from their families.

In addition, as illustrated examples from history, evacuated children have not always received positive nurturing care. Sometimes the caregivers have been inappropriate, the individual needs of children not met or, in the worst cases, children have been abused. Child welfare issues have often been inadequately considered prior to the movement of children because organizers have assumed that care arrangements would be made after evacuation, as may happen when children are moved simply as medical cases or as holiday children rather than as children for whom long term care arrangements might be necessary.

At the time of February 24, 2022 there was no special legal regulation at the Ukrainian national level regarding the evacuation of children who were directly in or near the combat zone. There was only a general settlement of the change of residence and the evacuation issue. On the legislative level, the CPC of Ukraine (Law No. 5403-VI VR, 2013) determines "evacuation" as the controlled removal or withdrawal of people from an emergency zone or a zone of potential damage if there is a risk to their life or health, as well as material and cultural possessions if there is a risk of their damage or destruction. The CPC of Ukraine also provides for the following classification: depending on the specifics of the emergency, the following types of evacuation are established: 1) mandatory; 2) general or partial; 3) temporary or irrevocable.

Since February 2022, Ukrainian lawmakers began to develop amendments to the legislation to meet the requirements of martial law. For example, Martial Law (Law No. 389-VIII, 2015) introduces an additional measure of this regime, namely the evacuation of the population in case of an emergency or a threat of an emergency, as well as from areas of armed conflict (from areas of possible hostilities) to safe areas (Article 8).

Furthermore, in 2022, the Ukrainian legislator amended the grounds for mandatory evacuation (CPC of Ukraine), namely, stipulated that compulsory evacuation of the population is scheduled and implemented in advance in case of a threat of possible armed conflict (from areas of possible hostilities determined by the General Staff of the Armed Forces of Ukraine for a special period to safe areas) (Article 33 (6)).

One of the first steps to resolve the issue of evacuation of children during armed conflict was to amend the Procedure for Evacuation in the Event of a Threat or Occurrence of Emergency (Resolution of the Cabinet of Ministers of Ukraine No. 841, 2013) (Procedure).

The said Procedure stipulates that in order to protect children in the zone of hostilities and armed conflicts under martial law, regional military administrations, in agreement with the military command authorities in the relevant territory and the Coordination Headquarters for the Compulsory Evacuation of the Population during Martial Law, may decide to conduct a forced evacuation of children with their parents, persons in loco parentis or other legal representatives from a separate settlement in the area where hostilities are taking place.

The novelty of the Ukrainian legislator is that forced evacuation of children is carried out just under the accompaniment of one of the parents, a person in loco parentis, or another legal representative. No refusal of parents, persons in loco parentis or other legal representatives from the forced evacuation of children from a particular settlement in the area where hostilities are taking place is allowed.

The competence to establish the list of territories where hostilities are (were) conducted is approved by the Ministry of Reintegration of the Temporarily Occupied Territories in cooperation with the Ministry of Defense, taking into account proposals of the relevant regional and Kyiv city military administrations.

From our perspective, the amendments to the Procedure regarding the mechanism for the forced evacuation of children from a particular settlement in an area where hostilities are taking place are not sufficiently specific. In particular, the question of where a child with one of his/her parents, a person in loco parentis or another legal representative will be evacuated to is not clearly defined; it is not determined who is directly responsible for such evacuation; it is not defined what exactly is a forced evacuation and how it can be implemented; the above-mentioned evacuation is carried out from the territories where hostilities are already underway, etc. At the same time, the above-mentioned Procedure stipulates that the organization of evacuation of the population, material and cultural property during a special period is carried out in accordance with the provisions of this law.

In April 2023, there was an attempt at the parliamentary level to improve the mechanism of forced evacuation of children and fill in the gaps in the law. The Verkhovna Rada of Ukraine has been considering draft law No. 9207 on amendments to the Martial Law (Draft of Law No. 9207, 2023) regarding the principles of forced evacuation of children, which proposes to legislate for the forced evacuation of children from settlements where hostilities are taking place and to determine its procedure. The draft law proposes to supplement the Martial Law with a new extra article "Legal Principles of Forced Evacuation of Children" and to define the rule that the evacuation of children during martial law is forced and must be accompanied by one of their legal representatives. The refusal of parents or other legal representatives from the forced evacuation of children is not allowed. The decision on the forced evacuation of children is made by the regional military administrations, in agreement with the General Staff of the Armed Forces of Ukraine and the Coordination Headquarters, which is established by the Cabinet of Ministers of Ukraine. This Draft Law defines the place of residence of a child together with a legal representative after forced evacuation, as well as the issue of financing (Article 18-1). However, unfortunately, as of November 2024, no changes in this direction have been adopted by the parliament.

In the meantime, it is worth paying attention to another aspect of national legislation. The state of Ukraine, having ratified the Geneva Conventions and implemented them into national legislation, did not take into account the peculiarities of national legislation. By Ukrainian law, children are divided into two categories: minimally capable (a person under the age of 14 - part 1 of Article 31 of the Civil Code of Ukraine) and minors (a person aged 14 to 18 - part 1 of Article 32 of the Civil Code of Ukraine) (Law No. 435-IV VR, 2003). We will not talk about the minimally capable, as they have partial civil capacity. As for minors with incomplete civil capacity, the following should be noted. In accordance with Article 313 of the Civil Code of Ukraine (Law No. 435-IV VR, 2003), stipulated those persons who have reached the age of 14 have the right to free independent movement throughout Ukraine and to choose their place of residence. Persons under the age of 14 are allowed to move throughout Ukraine only if accompanied by one of their legal representatives or an authorized person. Minors in Ukraine have a significant scope of rights and are liable for damages on a general basis. Therefore, in our opinion, the state of Ukraine, by creating a precedent in the form of forced evacuation (the Geneva Convention does not provide for forced evacuation), in a certain way restricts the personal non-property rights of persons aged 14 to 18. In our opinion, this is in some way contrary to the spirit of the Geneva Conventions.

Despite certain gaps in the legal regulation of forced evacuation, this mechanism is working. The Coordination Headquarters reported that in 2023, a total of 2,940 children were evacuated to safe places. This became possible due to the approval by the Coordination Headquarters of 9 decisions of regional military administrations on the forced evacuation of children with their parents or persons in loco parentis from a separate settlement in the area where hostilities are taking place (Government Portal, 2024b).

In 2024, a decision was already made to forcibly evacuate children from settlements in Kharkiv and Sumy regions. The Kharkiv Regional Military Administration's decision to forcibly evacuate 161 children from certain communities in the Kupiansk district was subsequently unanimously supported by the Coordination Centre for Forced Evacuation. In the Sumy region, it is planned to evacuate a total of 297 children from 52 settlements in the Sumy region (Government Portal, 2024a). The most recent forced evacuation of children was announced on August 9 this year in the Pokrovsk district of Donetsk region, during which more than 700 children are expected to be displaced (Tyshchenko, 2024).

Conclusion

Based on the above, it can be stated that at the level of international law there is a special protection of children during armed conflict. One of the measures aimed at protection is the mechanism of evacuation of children during armed conflict. International law provides for a general rule on the evacuation of children. Therefore, the evacuation of children at the level of international legal regulation involves three parties, one of which is a party not involved in the armed conflict. This entire mechanism involves supervision by the Protecting State. Additionally, the international procedure for the evacuation of children is voluntary and does not provide for the mandatory evacuation of one of the legal representatives together with the child.

Ukrainian legislation has set a precedent in the form of forced evacuation of children during armed conflict as one of the elements of special protection that can be characterized as preventive. The peculiarity is that the Ukrainian legislator has determined that one of the legal representatives must be evacuated together with the child that takes into consideration the age-specific needs of each child, which further affect their physiological and psychological health.

At the same time, the Ukrainian mechanism does not take into account the following points. Firstly, the existence of the legal status of minimally capable (0-14 years) and minors (14-18 years) and the different scope of rights and obligations of children of these age groups. Secondly, Ukrainian legislation still does not provide for a state support mechanism for those children with their legal representatives who have been forcibly evacuated after such evacuation. In such a situation, the child and his/her legal representative find themselves in new difficult life circumstances (lack of permanent housing, place of work and place of education, etc.)

As a result, we can conclude that the 'Ukrainian mechanism' of forced evacuation is definitely a positive step in the protection of children during armed conflict. However, it requires further improvement and harmonization with existing legal acts.

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Happy men and machines: an applied approach to affective computing driven by linguistic data

Щасливі люди і машини: прикладний підхід до емоційного штучного інтелекту, керованого мовними даними

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John 1:1

Abstract

This paper suggests that affective computing can achieve linguistic and cultural grounding of human knowledge about emotions, in combination of emotion concepts' diachronic depths and modern contents in a national worldview, matching the evolution that the human mind has gone through. The diachronic depth is an image that had formed in man's archaic consciousness and was prerequisite for a concept to emerge already in man's modern consciousness, in that the archaic image converted to a concept and motivated the word that was created as this concept's name. The paper shows that words for emotions contain original information making emotion concepts' contents in the archaic worldview, and eventual information making these concepts' contents in the modern worldview. This information is culture-specific; it is structured using frames and represented in the form of an ontology, which is machine-interpretable when formalized. Since emotion concepts' diachronic depths are archetypal, their ontological representation is regarded as non-trivial, in view of the fact that artificial minds are not supported by psychological archetypes. This paper's commitments find application in the case of HAPPINESS in the English worldview. Relevance of this paper's commitments is substantiated within the field of artificial intelligence, considering the viable link it establishes between ontology of human existence, natural language ontology in particular, and ontology as a computational artifact, and also within the humanistic context, given the global-scale crisis humanity is now facing.

Keywords: affective computing, emotion concept, emotion name, mental image, ontology.

Анотація

У статті запропоновано прикладний підхід до емоційного штучного інтелекту, керованого мовними даними, з метою обчислити знання про емоції, що його мають люди, у складі діахронічної глибини й сучасного змісту концептів емоцій у національно-мовній картині світу, відповідно до напрямку еволюції людського розуму. Діахронічною глибиною концепту є образ, який сформувався в архаїчній свідомості людини й був передумовою виникнення цього концепту вже у сучасній свідомості людини, коли архаїчний образ обернувся концептом і мотивував виникнення у мові слова-імені цього концепту. Показано, що слово-ім'я концепту емоції активує вихідну інформацію, яка складала зміст цього концепту в архаїчній картині світу, й кінцеву інформацію, яка складає зміст цього концепту в сучасній картині світу. Ця інформація визначається як культурно-специфічна; вона структурується за використання фреймів і постає у вигляді онтології, формалізація якої робить її зрозумілою для систем штучного інтелекту. Оскільки образи в діахронічній глибині концептів емоцій архетипні, їхнє онтологічне представлення є нетривіальним, враховуючи те, що штучний розум не спирається на психологічні архетипи. Підхід застосовано до концепту ЩАСТЯ в англійськомовній картині світу. Розкрито гуманістичний потенціал підходу в умовах техногенної кризи сьогодення.

Ключові слова: емоційний штучний інтелект, концепт емоції, ментальний образ, онтологія, слово-ім'я концепту емоції.

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Introduction

This paper holds that affective computing requires machine-interpretable representation of human knowledge about emotions, which is linguistically and culturally grounded, and proposes a way of how this grounding could be achieved.

In **affective computing**, artificial agents learn to detect, recognize, interpret, process, and simulate human emotions (Picard, 2000). Emotion is a cognitive phenomenon (Barrett, 2023), so machines' emotionality apparently enriches their rationality, with fair importance given to questions if and how machines think, and feel (Minsky, 2006). Artificial intelligence depends on data (Ovchinnikova, 2012), which navigates building artificial emotional intelligence, too (Kumar & Martin, 2023): human knowledge about emotions, human qualia of emotions included, must optimally be translated into a database, integrating this knowledge for natural language understanding. **Verbal report**, *ie* using words to describe emotions, is, as Feldman Barrett (1996, p. 47) puts it, "the most reliable and possibly only window that researchers have on conscious, subjective, emotional experience," with emotions detected in emoters' speech in natural contexts; indeed, it is language that human knowledge is expressed in (Steedman, 2008).

We accentuate sign-symbolic nature of words in human languages, as emotion names as signs **describe emotions**, whereas emotion names as symbols **depict emotions**; this rests on universal mechanism of linguistic meaning-making, in which non-propositional thought as a set of modal mental representations is converted into propositional thought as a set of amodal mental representations, and back (Vakhovska, 2023, p. 195-197). Artifact we use to fix sign-symbolic properties of a word is the semiotic passport of this word (term by Vasko, 2019).

Emotions are phenomena of the objective world that are subjectively experienced by humans as qualia. **Emotion concepts** are pieces of structured information about emotions that the human mind operates on for purposes of cognition; emotion concepts make a fragment in the conceptual worldview, and are a conceptual category. **Emotion names** are words of natural language that serve purposes of communication; emotion names make a fragment in linguistic worldview, and are a lexical-semantic field; this field maps onto the conceptual category of emotion, each word in the field naming a distinct concept in the category (Vakhovska, 2017, p. 9-27). Emotion names as words take this paper's centerstage.

The context that this paper works in is that of emotions that get computed for the purposes of human-centered artificial intelligence, tackling *the problem* of culture-specific information that the linguistic concepts of human emotions bear in different national worldviews. *This paper's objective* is to show, first, that words for emotions in different languages contain original, *ie* archaic, information about respective emotions (this information is represented in the form of images, and relates to words for emotions as symbols), and eventual, *ie* modern, information about respective emotions (this information is represented in the form of propositions, and relates to words for emotions as signs), and, second, that this information, both original and eventual, lends itself to structuring with the help of frames and to modeling with the help of ontologies, which makes this information machine-interpretable when formalized. This paper's objective frames *the theoretical concepts* that are presented in the progression of this paper's sections that follow.

Theoretical framework

Sign-symbolic nature of the word

Sign-symbolic nature of words in human languages has arisen through evolution, when archaic consciousness in humans transitioned to their modern one, with format of mental representations converting from modal to amodal (Vakhovska, 2024, p. 52-53).

On evolutionary view, **archaic consciousness**, mythical consciousness in particular, had featured **mental images**, before it gave way to **modern consciousness** that consists in **concepts** (Gebser, 1986), where we understand that archaic images, rather than simply vanish, have left their trace, making the diachronic depths of modern concepts (Vakhovska, 2023, p. 196-197). Diachronic depth of a concept is "the archaic image whose formation in the human mind was prerequisite for this concept to emerge" (Vakhovska, 2024, p. 51); this image is a symbol, as mythical thinking is "representing the world with the help of images as symbols for the phenomena of this world" (Vakhovska, 2023, p. 197).

Images are phylogenetically older than words, where we find that first words in **human evolution** were symbols whose forms and meanings were in a sacred way syncretic, owing to those images of the world that appeared in the emerging consciousness of early men (Makovsky, 2012). With time, this syncretism fell apart, with the result that human words became signs whose forms and meanings were now connected but arbitrarily.

Word as sign relates to propositional thinking, making “one’s understanding of the world” (Vakhovska, 2023, p. 195); **word as symbol** relates to non-propositional thinking, making “one’s view of the world” (ibid.), or **worldview** as symbolic space (Grace, 1987) and semiosphere (Lotman, 2010) inside which speakers of this language live. Semiosphere enables linguistic semiosis, making human communication possible, as languages are functions derived from their semiospheres, with cultural specificity of each.

Semiotic passport of a word: form and content of a word

“Stat rosa pristina nomine, nomina nuda tenemus”

Eco (1994, p. 531)

Semiotic passport of a word is languacultural artifact that fixes sign-symbolic nature of this word, which requires that the word be reconstructed as sign-symbol whose semantic properties are propositional, as those of sign, and non-propositional, as those of symbol.

Principle of making the semiotic passport of a word is semasiological, as one proceeds from linguistic form to linguistic meaning, exposing the mental entities that **this word’s form** as a linguistic entity contains. These mental entities are **this word’s meaning** as propositional thought humans think about the referent presenting itself to them, and **the mental image** that once motivated, and converted into, this word’s meaning as non-propositional thought humans thought about that same referent at the moment it presented itself, and the word was created (Vakhovska, 2022b, p. 180-181). Referents present themselves to humans in the world, and humans represent these in the mind either non-propositionally or propositionally, with the result that mental images depict those referents that words can only describe.

Words are nominative constructs, as both form and meaning of a word are made up of elements of different order arranged into more or less complex structures. **Form of a word** is the body of formal features that individuate this word in terms of certain grammatical categories, *eg* arrangement of **morphemes** in Russian *преподавательница* “a female lecturer” suggests that this is a feminine singular noun in the nominative case. As words are made up of morphemes, words’ morphological structure consists of formative base and of pre- and postformants attached to this base (Karaulov, 1997, p. 603-604).

Morphemes are meaningful constituents of words, with peculiar sound composition, and with sequencing of theirs that proves combinatorial, in the sense that the meaning of such a sequence is compositional: it is the function of meanings of its constituents, and of the way constituents combine, and is analyzed in their terms, enacting the complex interface between word’s formal and semantic structures (Booij, 2005, p. 207-213).

Meaning of a word is this word’s content emerging due to representation in human consciousness of the extralinguistic reality, or the world (Karaulov, 1997, p. 140). Meaning of a word is the concept that this word captures (Kubryakova, 1997, p. 89-93); words name and linguistically manifest concepts that find themselves in the human mind, but not in the world or language.

Word meanings are complex structures of central and peripheral semantic components. Components in **intension of meaning** are central, and underpin processes of categorization (Zhabotynska, 2013a, p. 48-62). Intensions are given in language dictionaries as signified meanings of words. Less central and more peripheral components, depending on their gravitation toward the intension, make implication of meaning.

Regions in **implication of meaning** are strict implication (intension’s most probable companions whose absence, yet, does not expel the concept from its category), highly probable implication (intension’s more probable companions), and weak implication (free components whose link with intension is as much probable as improbable, which is contingent on the ground that one takes for categorization in each particular case); these are fuzzy sets making a center-to-periphery continuum. Implication can be improbable, too, as in negative implication (Nikitin, 2007, p. 102-135). Knowledge of language is knowing

both what is probable and improbable for referents in the world, *eg* emotions provide affordance to think about themselves in some rather than other ways, distinguishing metaphors from non-metaphors in how humans conceptualize emotions.

Mental image is pictorial representation in the human mind of the referent presenting itself in the world, in the visual modality in the first place (Kosslyn, 1980), with the result that humans see images in their mind's eye.

Words contain mental images in words' inner forms (Vakhovska, 2022b, p. 180-181). Word's outer form is phonic and graphic container for this word's meaning. **Word's inner form** is "a fragment of this word's meaning that in its own time motivated this word to emerge in its peculiar outer form into language" (Vakhovska, 2024, p. 52, citing Potebnya, 1892, p. 102). This is **archaic image** that "has pictorial resemblance to the referent of the word, in view of how this referent presented itself, emerging into consciousness of man who gave this referent its name" (Vakhovska, 2024, p. 52, citing Potebnya, 1892, p. 102). This image makes the diachronic depth of the respective concept (Vakhovska, 2023, p. 196-197), and "acts as a seed generating in a culture those multiple mental representations that the concept eventually comes to subsume" (Vakhovska, & Isaenko, 2021, p. 244). All words in human languages are modal because of their inner forms, as long as words retain in their content a relationship to that modality which was the source of their origin (Vakhovska, 2024); see Figure 1, with a solid line for motivated relationship between form and referent, based on Zhabotynska (2013b).

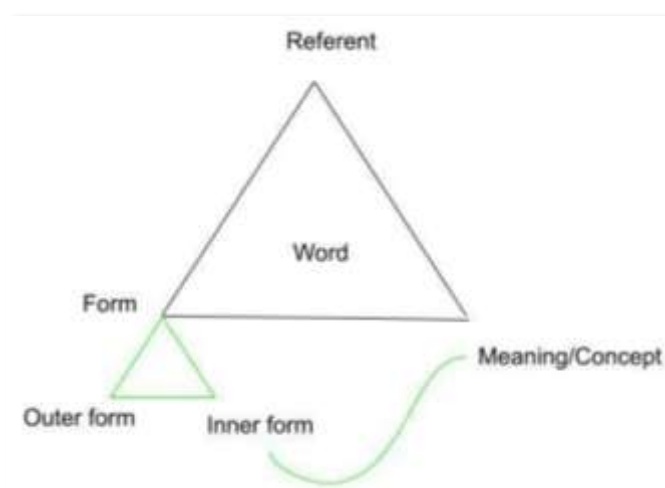


Figure 1. Word as sign-symbol, per Zhabotynska (2013b)

Absence of motivated relationship characterizes words as signs; in this sense, words are amodal; see Figure 2, with a dotted line for arbitrary relationship between form and referent, based on Ogden, & Richards (1923).

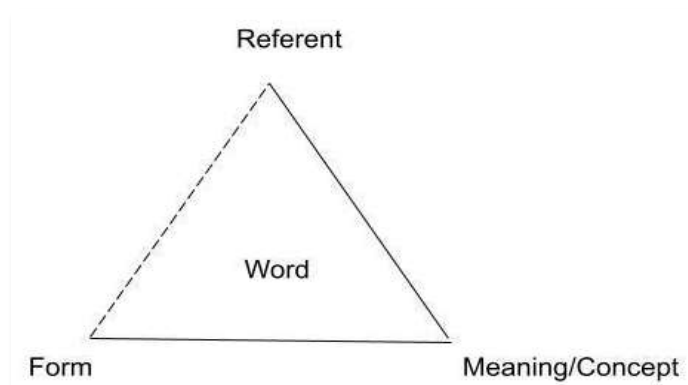


Figure 2. Word as sign, per Ogden, & Richards (1923)

Word inner forms are multimodal, as “visual and auditory perception becomes syncretic in them: visual and auditory modalities interact in acts of word interpretation, with humans switching between visual and auditory codes” (Vakhovska & Jusuk, 2021, p. 63), which is recorded in activity of the brain: brain’s auditory regions get activated to process word forms (word outer forms, in our terminology), while brain’s visual regions yield processing of word meanings (Hasson, 2016; Zada et al., 2023; Kumar et al., 2024).

Word inner forms “make a subset in the set of mental images,” with difference that word inner forms are **archetypal images** (Vakhovska, 2022b, p. 181-184; *qv* Jung, 1947). Archetypal image “can be something as simple as a static dream image or it can be an entire narrative in complexity, as stories can be metaphors just as static images can” (Goodwyn, 2011, p. 56). Word inner forms appear both as singular images and as sequences of images, with certain regularities of arrangement within their particular cultures. Combination of images, similarly to that of morphemes, has a compositional meaning of its own. This is “denotation by depiction” (Eisenstein, 1929, p. 30-35), with combination of two or three more or less simple images producing “an imagist effect” (*ibid.*, 31) to represent a complex abstract concept. Effect is not in the content as such, but rather in the way in which this content is (re-)presented (Shershnova, 2020).

Such narratives give different quale, and different knowledge, of happiness in English and Ukrainian worldviews (Vakhovska, 2024, p. 54-55). Pictorially, this is different happiness, as image at diachronic depth of HAPPINESS in each worldview comes in different sequence, contrasting movement of Deity in the vertical world to that of man in the horizontal world.

Semiotic passport of a word: data-relevance problem, and a solution

“One does not put what cannot be boiled into the pot”
East Slavic proverb

Relevance we primarily need presume here is that to the purpose of building **human-centered artificial emotional intelligence**, using this paper’s framework to that end.

This paper primes larger-scale research, aiming not to create another lexicographic source, but to let artificial agents understand what we humans know about our emotions, and what we humans mean when we use particular words for emotions we experience and for emotion concepts we have in mind. On that, aspects in data-relevance problem, and practical solution we tentatively offer, are as follows:

In hand-crafting words’ semiotic passports, question *What is the word?* must first be answered, as **word** is the subject with centuries-old history in various disciplines of human knowledge, each discipline holding various points of view, and yet with transcendence into the unknowable, as the Word was in the beginning, *ie* prior to humans and any human knowledge, as we understand it. Views we deem relevant are that word is a minimal free form in language that can occur by itself and be meaningful (Bloomfield, 1933), and that word is cardinal element of language faculty in humans, as it relates conceptual and linguistic worldviews, ensuring relation for human cognition and communication (Kubryakova, 2004). Our theoretical perspective is that word is a sign-symbol, which determines **structure of the word’s semiotic passport** in the composition of two items: **archaic image** at the diachronic depth, and **modern content** of the concept that this word is the name to. Passport is semiotic because it documents the word as a “citizen” of a particular semiosphere. Notably, passport opens with citizen’s picture and includes relevant data on citizen’s life; citizens need passports to go abroad, *ie* to other semiospheres, which occurs in word borrowing.

Practically, though, passport-maker needs to know not what the word of language is, but rather what the words of particular language(s) are. On that practical understanding, authoritative dictionaries, perhaps of various types, must be consulted, as dictionaries do not normally contain non-words; one makes sure that *happiness* is a **word of English**, and *щасття* “happiness” is a **word of Ukrainian**, and that these are translation equivalents. With this respect, passports can be considered only as resource, compared to dictionaries as source. Semiotic passports are source of a different kind of knowledge, *ie* knowledge of what makes these words into elements of their semiosphere, which is unique. It is their sign-symbolic nature that characterizes words as such elements.

Another practical question is *Which morphemes in a word’s makeup must this word’s semiotic passport hold?* We mean that passport can and should withhold some morphemes in word’s makeup. Rationale behind this solution is that linguistic worldview holds knowledge of language as system of forms, and

knowledge in language as system of meanings (Kubryakova, 2004). It is **knowledge in language** that we find relevant to represent at the ontological level, for machines.

Grammatical meaning depends on lexical meaning, not vice versa, with combinations of morphemes enriching words' semantic structures in the first place. We suggest that morphemes in word's makeup be given different weights, depending on the contribution each morpheme makes into this word's compositional meaning. Weight belongs to morphemes that contribute to the compositional lexical rather than grammatical meaning of a word, and in doing so enrich etymological interpretation of this word (see Methodology), showing the image that once motivated this word.

Example is English *happiness* and Ukrainian *щасття*, where the postformant *-ness* in *happiness* (Old English **hæp*) serves to form a common non-count abstract noun, while the postformant *-я* in *щасття* (**-je* in Old East Slavic **sъčestъje*) not only serves to form such a noun but also contributes "collection of parts" in word's compositional meaning (Vakhovska & Borozenets, 2023, p. 31-32). So, *-я* is given **semantic weight**, with result that featuring *-ness* in semiotic passport of *happiness* is irrelevant, while semiotic passport of *щасття* must feature *-я*, together with *-част-* (**čestъ*) "a part" and *с-* (**sъ-*) "good," which confirms that Ukrainian is (highly) synthetic, whereas English is (growingly) analytic. Cf. Levitsky's (2012, p. 228-229) judgment on correlation between a word's length in morphemes and this word's semantic volume, regarding linguistic typology. Morphologies of languages naturally vary, each with rules for building and understanding words of its language; passport-maker's responsibility is to weigh morphemes in each particular word for the nature and amount of meaning they carry.

Calibrating word's morphemes for their semantic weight postpones the part-of-speech theorizing that would otherwise be the case, as we make passports for emotion names as nouns but not adjectives. Practically, we work with morphemes that constitute emotion names, and we find that these same morphemes constitute both nouns and adjectives, as **happ-* in *happiness* and *happy*. We make semiotic passport of *happiness*, considering that category of object is primary among **ontological categories known by humans**, objects coming first when one experiences and cognizes the world (Rudenko, 1990). Nouns denote thingness, substituting in the mind things as such (physical object :: mental object). On that, *happiness* substitutes emotion *per se*, whereas *happy* does not, as adjectives denote properties of things; intuitively, *happy* is property of an emoter, while *happiness* is that very emotion itself.

Solution resonates with convention to label etymological archetypes in historical linguistics, *eg* Proto-Germanic **happ-* "to bend" is hypothetical original form of *happiness* (Levitsky, 2010, p. 248). Words' archetypes are panchronic; they are free from theoretical speculation and linguistic fashion, and have special relevance in view of transdisciplinarity. Solution adds practical value, agreeing in principle with stemming in data retrieval. More so, it promotes **psychological realism**, creating opportunities for non-superficial match between human and artificial minds, where we find it relevant to associate word meanings with naïve worldviews that are language-dependent and culture-specific, while scientific worldview is language- and culture-generic (Apresyan, 1974, p. 57-59). Scherer (2005) analyzes links between scientific and naïve concepts of emotion, accentuating "primary role of natural language categories for emotions as reflected by emotion words" (*ibid.*, 717). These categories come as roots and stems of English nouns and adjectives; HAPPINESS is "*cheer**, *bliss**, *delect**, *delight**, *enchant**, *enjoy**, *felicity**, *happ**, *merr**" (*ibid.*, p. 714-715), making one understand that HAPPINESS has *happ** as its name.

Basic-level knowledge ordinary people have of their emotions can help ensure the match. We take these emotions as basic, too. Whereas we now work with HAPPINESS in English worldview, and with *happiness* in English, we locate prospect in working with other **basic emotions** (Ekman, 1980) humans conceptualize in the mind and manifest in various languages. "Inquiry into a single language can suggest that linguistic meanings activate universal concepts, whereas comparative analysis shows that conceptualizations are linguistically (and culturally) grounded" (Głaz, 2022). Further work can include non-basic, and very non-basic (Smith, 2016), emotions, depending on scale of research. By and large, semiotic passports of emotion names from various languacultures need be collected into a database, for artificial minds to operate on the data.

Semiotic passport of a word: ontological dimension

"The word is given to us in order that we learn to think"
Kryshtal (2022, p. 250)

Semiotic passport of a word, given its cognitive, cultural, and discursive bearing, respects this word's evolutionary dynamics (Vakhovska, 2024) via the distinction between diachronic depth and diachronic variation of the concept that this word is the name to.

Semiotic passport contains **information**. Whereas "diachronic depth is original information making a concept's content in the archaic worldview, intension and implication are eventual information making this concept's content in the modern worldview, at different stages of concept's development. Information in a concept's content - either original or eventual - is structured using **frames** (Minsky, 1974) as tools for representing ontological knowledge" (Vakhovska, 2024, p. 57).

Ontology is knowledge model that specifies entities, their properties and links inside a domain (Peters & Shrobe, 2003). As we hold that human knowledge has archetypal basis, emotion concepts' diachronic depths appear rather non-trivial to specify, since images located there link indirectly to archetypes in the collective unconscious (Vakhovska, 2022b, p. 179). It is archetypes that wire human psyche to evolution and nature (Jung, 1947), making foreknowledge of all things humans know. Diachronic depth is a complex system of memory uniquely characterizing each distinct semiosphere (Lotman, 2010); even if humans are unaware of it, their archaic memories maintain strong influence, integrating as etymologies into mother tongues in the first place (Abaev, 1948).

We owe intuition to Dr. Jusuk, in personal communication, that archetypes "speak" to us humans in "language" of kazati; kazati illuminates and sparkles in the mundane stream of conscious thought, sending its ineffable short messages from the unconscious; kazati shows itself in dreams, too (Vakhovska & Jusuk, 2021). Slavic **kaz-/*čez-* is morpheme of productive derivation that inherits its meaning "to shine, speak, show" from Indo-European **keǵ-/ *keḱ-* "luster, light; an appearance" (Levitsky, 2010, p. 456). This must be the light we humans can see in "windows" (Kryshtal, 2022, p. 52, 250) that occasionally open between the conscious and unconscious in the mind.

Artificial minds, unlike human minds, are not supported by psychological archetypes. So, **artificial minds must be given diachronic depths**, if match with humans is to be at least somewhat non-superficial. As evolution of human intelligence started with images, evolution from image to concept in a word must be taken by artificial intelligence, too, in order that it learns to think similarly to how humans think. We mean that *думать* "to think; to think a thought" differs from *мыслить* "to think," in that *думать* is to think thoughts that are prompted (*подсказаны*) by kazati from the depth of the mind, whereas *мыслить* is to operate on propositions of thought from the mind's surface. We humans can do both; machines think but never think thoughts.

Culture is "collective programming of the mind" (Hofstede, 1991, p. 5), with words as "gene-like codes transmitting culture-specific information through human generations" (Vakhovska & Isaienko, 2021, p. 244); cf. *сказки* "fairytale" in Propp (2001). In the eye of current planetary crisis, we humans need raise awareness of our **cultural knowledge**, perhaps even more than machines, so that words of our languages do not become empty of their original meanings, which threatens to alter or, worse yet, bring archetypal programs of our human life to a halt. Evolutionary survival of human species apparently depends on meaning. Words' database helps regain, unify, and promote this meaning, allowing for a common denominator for people within one culture, while fostering dialogue of various cultures, in appreciation of language and culture of each other's ancestors.

Methodology

Diachronic depth of HAPPINESS in English worldview was reconstructed in two steps. First, etymon of Modern English *happiness* was identified in Old English as *hæp*. This etymon inherently is a word, and also is a sign reconstructed via **etymological analysis** from Proto-Germanic **happq* < Proto-Indo European **kap-*.

Second, **archaic image** that motivated *happiness* at the moment of creation was shown via **etymological interpretation**, in form of "a mythical story narrated relative to rituals of pagans, as in their mind the world was represented with images as symbols for phenomena of this world, so that coherence is given to the archaic consciousness of men whose mind's eyes were looking at happiness" (Vakhovska, 2023, p. 197-198). Interpretation requires that we look at happiness with our mind's eye, taking a mythical view of the world.

Whereas in evolution images converted into words, we as interpreter need go in reverse in order to re-convert words into images.

Details and decisions as to data selection and analysis, as well as reconstruction, bibliographic references, and lexicographic sources are documented in Vakhovska (2024).

Content of HAPPINESS in early 21st century English worldview was reconstructed in four steps, based on data of modern English discourse, using semantics of lingual networks. This is theory of linguistic meaning, and methodology of conceptual analysis, in which concepts are analyzed as lexical meanings of their names, with concepts' content structured by propositions of basic frames (Zhabotynska, 2013a). **Proposition** is logical subject and logical predicate of this subject; each proposition belongs to a particular **frame**, depending on the semantic role of its predicate. Propositions have "the highest level of abstraction, or schematicity; they single out primary conceptual entities and basic attributes and relations of these, and are universal finite tools of human propositional thought in its infinite configurations. Each configuration of propositions is configuration of propositional thought, forming a conceptual network" (Vakhovska, 2022a, p. 121).

First, 1000 discourse fragments manifesting HAPPINESS as *happiness* were retrieved from British National Corpus; this was direct simple random sample. Second, predicate calculus was used to contextually detect in fragments the logical predicates of HAPPINESS. Third, propositions in the content of HAPPINESS were sorted based on frames they belong to, in virtue of their predicates. Fourth, conceptual network of HAPPINESS structured by propositions of basic frames was built.

Each proposition in the network has a prominence indicator. This is prominence of a proposition, "depending on how many linguistic expressions in the data are licensed to occur by this proposition; the bigger the number, the more prominent the proposition" (Vakhovska, 2021, p. 38). Based on their prominence, propositions were distributed into **intension** and **implication** of HAPPINESS. Levels to which these were generalized are as follows:

"intension of meaning,

strict implication - more than 50 expressions licensed by a proposition,

highly probable implication - 20-50 expressions,

weak implication - less than 20 expressions" (Vakhovska, 2021, p. 38).

Propositional knowledge about happiness was given the form of narrative. By analogy to mythical stories in Gebser (1986), this narrative is mental story about happiness. Narrative captures original information if one considers the diachronic depth of HAPPINESS; this is mythical story about happiness. Narrative captures eventual information if one considers the intension and implication of HAPPINESS; this is mental story about happiness. Both pieces of information were represented as **ontologies** structured by propositions of basic frames.

Details and decisions as to data selection and analysis, as well as reconstruction, and bibliographic references are documented in Vakhovska (2021).

Results and discussion

Semiotic passport of *happiness*

Two items in semiotic passport of *happiness* are archaic image at the diachronic depth, and propositions in the modern content of HAPPINESS in English worldview.

Archaic image that brought *happiness* into English is shown as narrative in Vakhovska (2024, p. 54-55). Whereas this image shows movement of man, image at the diachronic depth of HAPPINESS in Ukrainian worldview shows movement of Deity Who cuts off and bestows a good fate upon man. Man is creation of Deity. Man's fate is the part that is given to him by Deity. Man's happiness is the piece of common good that he is allowed by Deity to bite off (Vakhovska, 2024, p. 55). The images are apparently distinct, and in a unique way transcend their cultures, with the result that *happiness* and *щасття* are translatable but not interpretable in each other's terms (Vakhovska, 2022b).

Ontology with original information that *happiness* activates is in Figure 3.

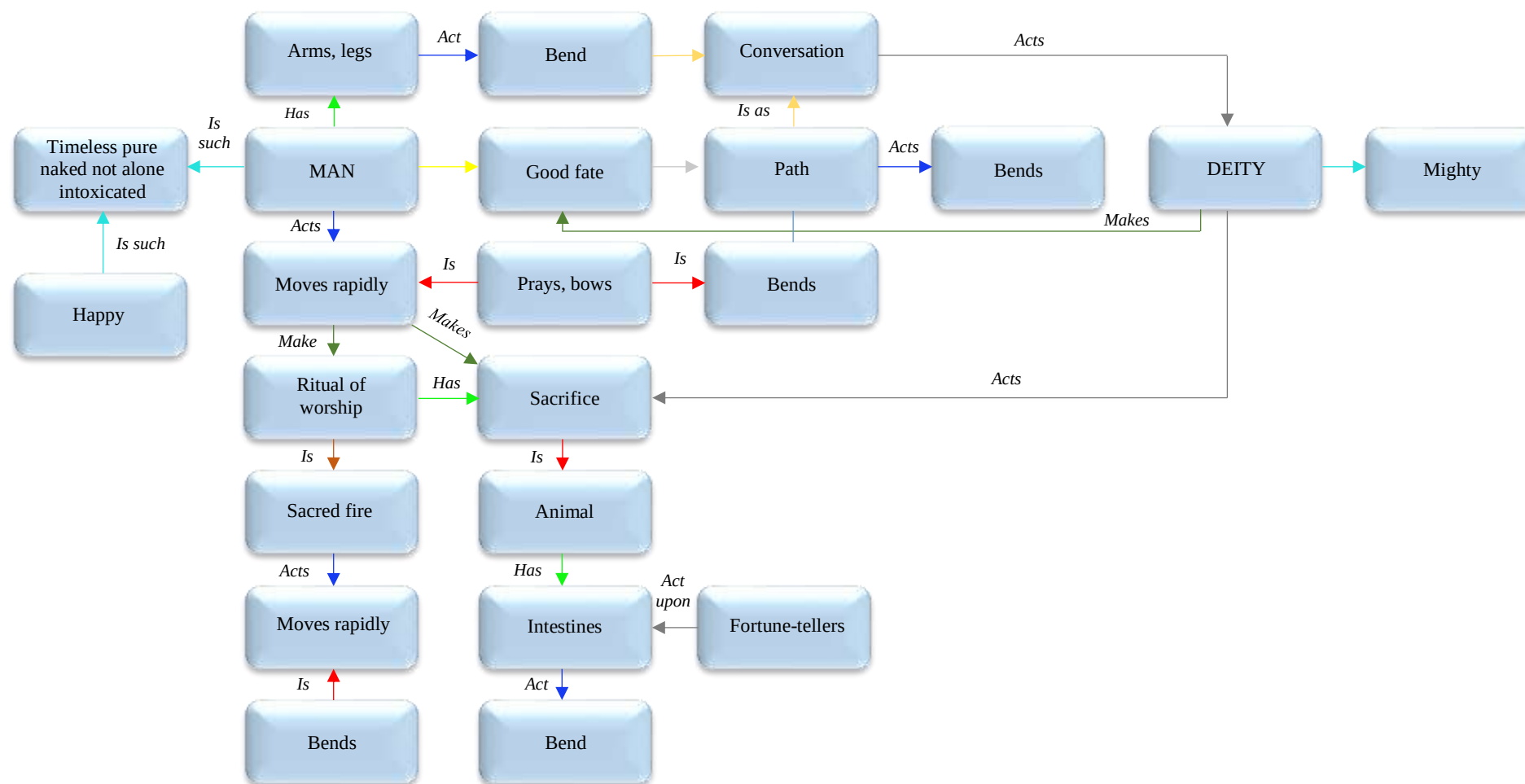


Figure 3. Ontology specifying the diachronic depth of HAPPINESS.

Content of HAPPINESS in early 21st century English worldview is given as narrative in Vakhovska (2021, p. 40). Represented as [numerical value] are numbers of linguistic expressions licensed to occur by respective propositions. (Note: diachronic depths are pre-written, and so impossible to give numerical values to.) Ontology with eventual information that *happiness* activates is in Figure 3, as per Vakhovska (2021, p. 44) where differently colored arrows show frames and their propositions, while colored boxes show intension (red) and strict (orange), highly probable (purple), and weak (gray) implication in the meaning of *happiness*. Knowledge of happiness that this ontology represents is culture-specific. On the whole, ontologies of this kind can be built in respect to earlier written periods in historical time, suggesting the diachronic variation of HAPPINESS in English worldview, *ie* fragments of English discourse must be sampled that were generated during intended periods of time, so that one can fill with meaningful data the semantic continuum that stretches, as an evolution, in between the concept's origin and modern state. Alternatively, HAPPINESS in some very special worldview, *eg* "underlying worldview of the next Aristotle" (Jobs, 1985), could be captured in computer this way.

This paper's prospect is in **formalizing ontologies** for HAPPINESS in Web Ontology Language, using Protégé ontology editor, in view of the archaic image at this concept's diachronic depth, and of this concept's propositional content in the early 21st century.

Advantages that this paper's approach implies for the field of artificial emotional intelligence bear largely on the fact that affective computing refers not only to certain technological functions in emotion detection, recognition, interpretation, processing, and simulation, as per (Picard, 2000), but also to major and imperative social processes, in which **cultural expectations** and **cultural differences** take on a critical role of the regulator, with the result that the concept of culture has become more and more often applied in the development of artificially intelligent systems (White, & Katsuno, 2022) and also in the evaluation of such systems in terms of (non-)humanistic criteria in particular (Sufyan et al., 2024).

The traditional focus on cultural attitudes and behaviors that prove formative for emotional agents (*qv* Osgood, May, & Miron, 1975; Scherer, Bänziger, & Roesch, 2010) is by this paper's approach extended in a non-trivial way to include the fine-grained aspects of humans' **cultural embodiment**, *cf* Allbeck, & Badler (2004), which promises to align machines with humans better - more naturally, more intuitively, and, above all, civilizationally safer, *cf* Yonck (2017), - and which does align itself with the **evolution** of human intelligence that once started with images of the world, such as cave drawings showing people in worship around the sacred fire, and then continued with abstract concepts, such as the concept of human happiness (*qv* Porshnev, 1974, p. 380-459).

Archaic images that this paper shows at the diachronic depths of emotion concepts testify to the fact that words for emotions universally are linguistic signs that enable human communication and simultaneously are cultural symbols that imbibe, and are motivated by, human subjective experiences (*cf* Łozowski, 2023; Jarosz, 2020, p. 33-51), where we understand that these experiences come through (visual) perception and are phenomenal (*qv* Merleau-Ponty, 1962; Barsalou, 1999), and where we emphasize that these experiences make the unspoken information that words for human emotions carry, *cf* Smith (2016), which promises to equip emotional agents with unprecedented capacities for both **inter- and cross-cultural communication**, *qv* Isbister (2004). This unspoken information comes to be explicated and given a semantic weight to, *cf* Ballout, Krumnack, Heidemann, & Kühnberger (2023), while the multimodal format of how this information is represented is maintained, *cf* Loveys, Sagar, & Broadbent (2020). More than that, the point we make is that artificial minds, unlike human minds, are not supported by psychological archetypes, as long as images at emotion concepts' diachronic depths are archetypal, *cf* Goodwyn (2020).

This paper's approach suggests a viable link between **ontology of human existence** (Hofweber, 2023), **natural language ontology** in particular (Moltmann, 2022), and **ontology as a computational artifact** intended to capture "everything that is there." Ontologies as computational artifacts are gaining an increased importance nowadays, helping sort, organize, and analyse data, and creating an unambiguous semantic basis for human knowledge management (Strassner, 2008), with the result that this knowledge is standardized and can efficiently be shared (Gal, 2009; Staab & Studer, 2009) and utilized by various technologies (Kendall & McGuinness, 2019). In artificial emotional intelligence, standardization of this kind bears on the need of determining the baseline dataset (Wang et al., 2022), where we envisage that a shared vocabulary of emotion words will foster understanding of the related data in different formats (*ie* visual and textual) and in different languages (*eg* English and Ukrainian), enabling the meaningful use and reuse of human knowledge about emotions by both humans and machines.

We subscribe to the opinion expressed in Ojha, Vitale, & Williams (2021) that all the existing approaches to affective computing have a *limitation* in them, the fault of our approach, as we see it, consisting in the fact that the archaic knowledge about emotions we wish humans and machines to connect to via ontologies is largely tacit in nature, as this knowledge was acquired from our personal experience, in particular that of education and continuous linguistic and etymological research, and comes in combination with intuition, though this intuition in researchers is habitually an informed one, *cf* Levitsky (2010, p. 23-40). As **tacit knowledge** does not lend itself to explication easily (*qv* Nickols, 2000), we remain open to discussing the implicit knowledge we have instilled in this paper with subject matter experts in the field.

Conclusions

This paper has proposed a way of how the linguistic and cultural grounding of human knowledge about emotions could be achieved for machines, in visually representing knowledge that human words for emotions contain. *Originality* of this paper is in the fact that it looks at the linguistic concepts of human emotions from within their diachronic depths, and sees the archaic images that at their own time converted into these concepts, thereby plugging emotion concepts into the evolution of human intelligence and then placing these concepts at the junction of ontology of human existence, natural language ontology in particular, on the one hand, and ontology as a computational artifact, on the other, with the understanding that the latter is intended to structure and formalize the former, in letting machines understand what humans know about their emotions. This paper's *future line of research* is to investigate the other basic emotion concepts, using the framework developed for HAPPINESS towards that end.

We leave it at discretion of this paper's readers to disambiguate *happy men and machines* in its title, deciding if machines are also happy. We in the meanwhile share our belief that machines cannot naturally and genuinely be happy. This can only be a matter of the degree of persuasiveness in how convincingly machines simulate human emotions. When so much gets nowadays simulated, we commit naturality to humans.

Quo vadis, homine?, as words of wisdom go.

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Megaprojects of Moscow in the world cultural heritage system: on the restoration of the Romanov house and the Ostafyevo museum-estate

МЕГАПРОЕКТЫ Г. МОСКВЫ В СИСТЕМЕ МИРОВОГО КУЛЬТУРНОГО НАСЛЕДИЯ: К ВОПРОСАМ РЕСТАВРАЦИИ ДОМА РОМАНОВЫХ И МУЗЕЯ-УСАДЬБЫ «ОСТАФЬЕВО»

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Abstract

The relevance of the article is due to the problems of preserving the cultural heritage of regions, which is extremely important, since the loss of identity entails not only the disappearance of the historical appearance of cities, but also the loss of their economic and tourist potential. The uniqueness of the cultural heritage of Moscow as the capital of the Russian Federation has its own characteristics that distinguish it from other cities in the world. The author aims to trace the historical restoration of two architectural objects: the Romanov house and the Ostafyevo Museum-Estate, and to evaluate their historical and cultural potential. It is supposed to assess the historical significance of the objects in terms of restoring their original appearance, taking into account its authenticity (authenticity of the idea, material, architectural skill and environmental environment).

The conducted retrospective comparative analysis has shown the difference in the creative methods of restoration practice used in recreating the appearance of the estate house, depending on the preservation, restoration technique, accuracy of stylistic reconstruction and other parameters. If the

Аннотация

Актуальность статьи обусловлена проблемами сохранения культурного наследия регионов, являющейся крайне важной, т. к. утрата идентичности влечет не только к исчезновению исторического облика городов, но и к потере их экономического и туристического потенциала. Уникальность культурного наследия г. Москвы как столицы РФ имеет свои особенности, отличающие его от других городов мира. Автор предпринимает цель проследить историческую реставрацию двух архитектурных объектов: дома Романовых и музея-усадьбы «Остафьево», оценить их историко – культурный потенциал. Предполагается оценить историческую значимость объектов в аспекте восстановления их первоначального облика с учётом его аутентичности (подлинности замысла, материала, архитектурного мастерства и средового окружения). Проведенный ретроспективный сравнительный анализ показал различие творческих методов реставрационной практики, применяемой при воссоздании усадебного облика, зависящий от сохранности, техники восстановления, точности стилизового воссоздания и других параметров.

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restoration work of the Chambers of the Romanov boyars located in the Zaryadye district of Moscow, which began in the XVII century. had a step-by-step sequential principle of reconstruction over an extended time period, then one fundamental comprehensive modern restoration was undertaken at the Ostafyevo Museum -Estate, which lasted 16 years until 2017, including external and internal interior the space and its historical and documentary content. It is pointed out that the choice of methods is difficult, since due to numerous fires and alterations, the appearance of the Romanov house has repeatedly changed, and in the only preserved park estate of the XVIII century in Moscow in Ostafyevo, a public museum, a children's camp and a rest house were located in different years. Here it was possible to clarify a number of fundamental patterns of the visual interaction of the estate with the surrounding environmental context, which underwent a radical transformation at the final stage of its existence.

Based on archival documents, old photographs, drawings and extant graphic images dating back to that time, a conclusion is made about the relationship of restoration, conservation and reconstructive actions on such objects, showing their life in the context of changes and additions that preserve traces of time.

Keywords: Moscow, architectural objects, the House of the Romanov Boyars, the Ostafyevo Museum-Estate, restoration, reconstruction of the monument.

Introduction

Today, the protection of cultural heritage is a global problem of our time, along with environmental, demographic and other issues. Cultural heritage includes the spiritual, cultural, social and economic aspects of a unique value, which is the basis for national identity, self-respect, pride and recognition by the world community.

Today, issues related to the identity of peoples are especially "acute". Cultural and moral values are a certain component that connects the current generation with historical memory and contributes to the preservation of the spiritual unity of the entire society. Among other things, it helps to identify and preserve national-cultural identity as a security basis for the entire state. The scientific and pedagogical significance of our research topic is determined by the great contribution of the Russian Federation to the treasury of world culture, the centuries-old experience of the restoration school, the developed traditions of Russian architectural thought, and the significant expansion of cultural and scientific ties between Russia and other countries.

Cultural heritage sites occupy an important place in the space of modern cities. Cultural monuments are genuine witnesses of historical events, reflect the knowledge and skills of their creators, their aesthetic preferences, material wealth, style tastes, have undeniable significance for the development of society as a whole, are used for cultural, educational and educational purposes, the creation of tourist products and

Если реставрационные работы палат бояр Романовых, расположенных в районе «Зарядье» г. Москвы, начавшиеся еще XVII в. имели поэтапно-последовательный принцип воссоздания в течении протяженного временного периода, то в музее -усадьбе «Остафьево» была предпринята одна фундаментальная комплексная современная реставрация, длившаяся 16 лет до 2017 г., включающая внешнее и внутреннее интерьерное пространство и его историко-документальное наполнение. Указывается на сложности выбора методов, так как из-за многочисленных пожаров и перестроек внешний вид дома Романовых неоднократно менялся, а в единственно сохранившейся на территории г. Москвы парковой усадьбе XVIII в «Остафьево» располагались в разные годы общедоступный музей, детский лагерь и дом отдыха. Здесь удалось прояснить целый ряд основополагающих закономерностей визуального взаимодействия усадьбы с окружающим средовым контекстом, который на завершающей стадии своего существования подвергся радикальной трансформации.

На основании архивных документов, старых фотографий, чертежей и дошедшей до наших дней графических изображений, датированных тем временем, делается вывод о взаимосвязи реставрационных, консервационных и реконструктивных действий на таких объектах, показывающих их жизнь в контексте изменений и дополнений, сохраняющих следы времени.

Ключевые слова: архитектурные объекты, г. Москва, Дом бояр Романовых, музей-усадьба «Остафьево», реставрация, воссоздание памятников.

brands, and also act as objects of numerous scientific research. How and to what extent the past cultural heritage, the memory of the passing generations, their achievements and creative heritage will be preserved will depend on the sustainability and success of the development of society, the country and the world. Even modern "digital archiving" will be insufficient, because without subject classification and research by humans (and not digital technologies), archives will turn out to be a simple database, at best, for teaching artificial intelligence, and will not become part of the cultural heritage for future generations.

The material essence of heritage is cultural world values. The cultural and natural heritage of Russia is actively involved in the world cultural space. As a rule, a characteristic feature of historical and cultural objects is the period of their formation and the connection that they have with one or another significant historical event or personality (Kober, 2021). In this case, a large role is given to the planning volumetric-spatial base, the silhouette of the city and water spaces, the perspective of the main streets, as well as applied and architectural monuments of cultural heritage located on its territory (Levina, 2020; Krasnova, 2022).

Cultural heritage is influenced by a large number of phenomena and processes that occur in society. However, it also has an impact on the social spiritual atmosphere. Various architectural monuments, if considered in the form of objects, are carriers of aesthetic, historical, artistic and functional human values (Karpova, 2021).

So, we can say that the protection of cultural heritage is the most significant issue for the current period of time. This problem is on the same level as demographic, energy, raw materials and a large number of other important problems (Khakimov, 2019).

Within the framework of the state policy system, which is aimed at preserving cultural heritage, special importance is given to activities aimed at popularizing heritage, as well as the process of cultural enlightenment (Makarova, 2020). Considering that we are currently in the era of globalization, this is a fairly prompt measure. The Federal Law of the Russian Federation on Cultural Heritage Objects provides for methods of preserving the historical and cultural value of objects, providing for conservation, repair and restoration (Balikoev et al., 2023). At the same time, a huge number of cultural heritage sites are in disrepair. There are insufficient funds not only for the reconstruction, restoration and maintenance of cultural heritage sites, but even for their conservation. In projects for the restoration and development of such facilities, it is necessary to rely on the growth of self-awareness of residents of cities and settlements, their involvement in the development of the territory and the local community, ensuring employment of residents, educating young people a sense of responsibility to their small homeland (Povolskaya, 2023).

Despite the existence of international documents regulating the activities of States in the field of monument protection, many countries adhere to their traditional principles of preserving cultural heritage. Each country has unique traditional sites that are of particular value to its culture. The national principles of restoration always stem from the tasks that are put forward in a particular society in relation to its national heritage (Brendousova, 2020). The state protection of cultural heritage objects is understood as a system of legal, organizational, financial, logistical, informational and other measures aimed at identifying, recording, studying cultural heritage objects, preventing their destruction or harm to them.

Methods of preservation of cultural heritage objects are recognized:

- Restoration: restoration of damaged or ruined cultural heritage sites using carefully selected authentic techniques and materials to preserve the original appearance and structure;
- Photo and video recording: creation of documentation using modern technologies for archiving details or other architectural elements and the condition of the object at the time of conservation or restoration;
- Monitoring: monitoring systems for storage conditions that prevent unauthorized changes in condition and parameters that may negatively affect the preservation of the cultural heritage site;
- Preventive measures: development of strategies to prevent possible threats that could damage the cultural heritage site;
- Integrated approach: the joint use of various methods of restoration and conservation, providing comprehensive protection of cultural heritage sites from various types of destructive influences.

In modern conditions, the value of an architectural monument is not limited solely to its aesthetic qualities, but is complemented by its historical and semiotic significance. In this regard, at the present stage, cultural heritage objects of value are recognized not only individual masterpieces, but also structures reflecting the

flavor of a certain era or a certain historical architectural style, including ordinary buildings that cannot be torn out of the architectural context of the environment.

Recently, the question of preserving and sometimes recreating the estate culture has been increasingly raised (Trubetskaya, 2020; Krasnova, 2022).

In this regard, this article examined two cultural megaprojects for the restoration of extremely important national cultural heritage sites of the Russian Federation in Moscow - the House of the Romanov Boyars and the Ostafyevo Museum-Estate. The unflagging interest of researchers in this issue throughout its history at the transnational level and at the level of a single country determines the undoubted relevance of this study.

The purpose of the research is to study and analyze the cultural mega projects of Moscow as historical monuments in the field of cultural heritage preservation.

Research objectives:

- Analyze cultural megaprojects for the restoration of cultural heritage sites in Moscow the House of the Romanov Boyars and the Ostafyevo Museum-Estate;
- Trace the evolution and systematize the stages of recreating their historical appearance;
- Conduct a comparative analysis of the restoration work of these objects, identifying the features of the application of methods necessary for the specifics of the estate image and style;
- Assess the historical, cultural and tourist potential of the monuments under consideration.

Literature review

The current level of knowledge of problems related to the restoration and reconstruction of cultural heritage, the formation and development of such practices in the world is determined by a number of studies devoted to both general aspects and individual links of the system of restoration of the appearance of structures.

The issues of the organization of the restoration work system and the history of its scientific development were studied in the works (Chernysheva, 2006; Chernyavskaya, 2020, Bulavina, 2022; Karapetyan, 2022).

New technologies and methods for the restoration of historical objects are analyzed in studies (Rizayeva, 2020; Vittorini, 2022).

Works are devoted to the cultural direction of restoration of objects of artistic and historical heritage (Mukhin & Mohamed, 2020; Podverbny, 2023).

The conceptual aspect of the content of programs for the restoration of landscape architecture monuments was studied by the authors (Anagnostopoulos, 1988; Francis, 2001; Tai, & Kuper, 2010; Weller, 2014).

Landscape design issues and aesthetic categories of restoration were considered in the works (Meyer, 2008; Tourbier, 1988; Liefoghe, 2020).

Studies have been devoted to the integration problems of the city and historical architectural megaprojects in the modern world (Roosevelt, 1995; Rohr, Bernhardt, Cadotte, & Clements, 2018).

There is a constant interest in the domestic theory of restoration in the study of foreign methods and techniques. There are many publications on the current state of individual historical, cultural and artistic sites, including those protected by UNESCO (Logan, 1997; Mikhailovskii, 2011; Buckler, 2015; Thapa, 2020).

There are scientific papers examining the building of the Romanov Chambers from a historical perspective, including information on the historical use of the museum building, on the formation of the memorial complex of the Romanov dynasty in the XIX century and on the current state of the museum (Shutskaya, 2017). A similar edition in book format tells about one of the most interesting monuments of the Moscow region - the history of the Chambers and their owners, as well as the history of the museum created here in the middle of the XIX century (Shchutskaya, Tregubova, 2007). From the standpoint of Russian tile

research, the article is devoted to S. I. Baranova, which analyzes the activities of architect F. F. Richter, his role in the discovery of the national tiled heritage and in the interpretation of the plot and symbolic line on the example of the restoration of the Romanov Boyars' Chambers in Moscow (Baranova, 2011).

Regarding the profile studies of the Ostafyevo Estate, one can mention an article written in a cultural direction, describing a successful place near Podolsk, named by A.S. Pushkin's "Russian Parnassus", where you can not only plunge into the atmosphere of Russian estate life of the 19th century and enjoy the surrounding landscape (Krasavin, 2014).

In the study by V.M. Chekmarev emphasizes the due to multiple reconstruction by the beginning of the 21st century. The estate was largely lost its original volumetric-spatial structure, architecture and planning organization, and interior design; only individual decorative elements on the facades have been preserved. The periods and causes of partial and even complete degradation of the original natural environment, which was stably preserved in the territory under consideration until the first third of the 20th century, have also been identified (Chekmarev, 2023).

However, there are very few works based on a comparative analysis of two monuments of the same city, showing the distinctive techniques of their restoration and together forming the status of megaprojects, and there are none in our comparison. This format allowed us to highlight the questions that determined the formulation and formulation of the main research problem.

Methods and materials

A systematic, structural, historical and logical approach is used as the basic components of a system of methodological approaches that have a general scientific character. Statistical analysis as a process of collecting and analyzing existing and already published information about various historical pages telling about the material and cultural life of the chambers of the Romanov boyars and the Ostafyevo Estate led to content analysis of disparate text printed, handwritten and online materials collected together, which allowed draw up a systematic, consistent picture of the restorations of two architectural objects.

The special source base of the research was the visual analysis of natural monuments, the study and analysis of information about their restoration (trips to their locations), photo fixation, work with literary and archival sources Vyazemsky. RGALI; Old postcards. The house of the Romanov boyars, 1857; Ostafyevo Manor, archival photographs), analysis of statistical data.

This study was conducted through accurate art historical methods of understanding the material and author's stages in the process of collecting them according to the principle of systematic scientific information and building concepts, objective analytical reflection of reality in the form of physically existing architectural monuments. Thus, historical specifics are here the main area of application of all analysis tools and the possibility of their reproduction. If the new study uses the same tools as the original study, the same research protocol, and the study consists of the same group of researchers, then the results will be similar, but not necessarily identical, since we are dealing with a humanitarian field of research.

Results and discussions

The restoration of a historical building is not only the restoration of its appearance, but also the filling of historical spaces with an actual function, because the building fully exists not in the form of walls, but in the totality of social processes taking place inside and around it. Modern restoration of architectural monuments is a set of measures for the restoration, finishing and decoration of the interiors and exteriors of building.

The most relevant issue in scientific restoration is the authenticity of the work. It is worth noting that the possibilities of modern construction equipment and new building materials are almost limitless (Yuzbashyan, 2022). Thus, in the process of restoration of an architectural monument, it is important to maintain a balance between the preservation of historical heritage and the modern functionality of the building.

The theory of restoration of architectural monuments is based on several basic principles: authenticity, inviolability, readability. Karpova E. S. identifies evaluation criteria that determine the success of a restored

reconstruction, where the level of comfort, economic efficiency, respect for history, aesthetic value and significance for further development are of decisive importance (Karpova, 2021).

Today, work is being actively carried out to preserve cultural heritage sites in all cities of Russia, including the capital. Between 2013 and 2023, more than 2,000 cultural heritage sites were restored in the capital. Due to the fact that the city is actively working to maintain and restore cultural heritage sites, the city has its own unique appearance (Mos.ru, 2023).

Let's consider how the restoration of one of the most significant cultural heritage sites of Moscow took place - the House of the Romanov Boyars. The chambers of the Romanov Boyars are the only surviving building of the large estate of the Romanov Boyars (Figure 1).



Figure 1. The House of the Romanov Boyars. Photo: Vladimir d'AR (n/d).

The house, which later became known as the House of the Romanov Boyars, passed into the possession of Nikita Romanovich Yuriev in the 1540s, when he married Varvara Ivanovna Khovrina. Nikita Romanovich Yuryev was the grandfather of Mikhail Fedorovich Romanov, the future Tsar of the Russian Empire. The house of the Romanov Boyars is the house in which Tsar Mikhail Fedorovich Romanov was probably born. The building represents the oldest building in Moscow, and the very first inhabitants of this house were the Khovrin merchants. They settled in this house in the 15th century. Unfortunately, from that time (from the 15th century) only a white stone basement remained here.

Most of the house was restored and redone in the XVI-XVII centuries, which led to the loss of the original appearance of the House. At that time, two clans competed with each other - the Romanov family and the Godunov family. The Godunov family in power was very afraid that the Romanovs might "displace" them from the throne. In this regard, Boris Godunov arrested all the Romanov brothers in 1600, then they were expelled from Moscow, but in the end, the Romanov dynasty won and in 1613 Mikhail Fedorovich Romanov became the Tsar of the Russian Empire. The house of the Romanov boyars was named the Old Sovereign's Court. Then the house was transferred to the Znamensky Monastery. The house has been in the possession of the Znamensky Monastery for more than 200 years. In 1856, Alexander II ordered that the House of the Romanov Boyars be made a museum.

Throughout its existence, the House of the Romanov Boyars has been rebuilt many times. The original appearance of the House was restored by restorer Fyodor Richter. Thanks to this specialist, who carefully examined the House and all the documents related to the House, it was possible to establish that only two floors remained from the original House of the Romanov Boyars – these are the white stone and brick basements of the late XV century – early XVI century, the basement and the middle floor of the XVII century.

Fyodor Richter carried out the first restoration of the House in the XVIII century, restoring the original appearance of the House, which he possessed in the XVI-XVII centuries. Then almost the entire architecture of the house was completely restored, as well as the interior. Thus, a wooden upper room was erected, tiled stoves were installed, the so-called boyar's office, refectory and other rooms were decorated, which since 1859 began to be exhibited as part of the Romanov Boyars House Museum (Figure 2).



Figure 2. The initial restoration project.

Source: F. F. Richter. (n/f)

The second restoration took place from 1984 to 1991, during which an interesting painting was restored inside the building, stairs, passages, reproduction of the appearance of ancient boyar life. The third restoration took place not so long ago - in 2017. The main task of the restoration was to correct the composition and design of the facades, but without making special changes in order to preserve exactly the appearance of the facade, which was recreated in 1856-1859 by architect Fyodor Richter. During the third restoration, the facades of the outbuilding, the brickwork of the walls, the white stone floors and vaults, the plastering and plaster coating of the ceilings, as well as the colorful coating of the walls were restored. Then the plank and parquet floors, windows and doors, wooden interior decoration were restored, heating and water supply systems, electrical networks were replaced and new ventilation system devices were installed. When restoring the House of the Romanov Boyars, it was necessary to take into account the preservation of the unique diamond rust of the House - a type of painting that creates a visual volume. The restorers had to work hard to accurately replicate the ideas of the old masters. As a result, the Chambers of the Romanov Boyars were restored to their historical appearance.

During the landscaping of the courtyard of the House, a historical stone was used, which has been preserved since the time when this object was built. The stone has a special texture: flat surface on top and a convex surface on the back. The masters of that time polished only the upper part, and the reverse side was "sunk" into the ground. Therefore, laying this stone was not an easy task, since it was necessary to achieve a smooth masonry.

The house of the Romanov Boyars belongs to the territory of Zaryadye Park in Moscow. Restoration work was also carried out in Zaryadye, as part of which other cultural heritage sites were restored - the Old English Courtyard, the building of the services of the Znamensky Monastery and the Temples of the Patriarchal Compound in Zaryadye and on Varvarka. Thus, we examined the number of restorations of the House of Romanov Boyars and how they were carried out. Now let's analyze the chronology and features of the restoration of another significant object of Moscow's cultural heritage – the Ostafyevo Museum-Estate (Figure 3)



Figure 3. Ostafyevo Museum-Estate. Photo by Yu. Makarov (2020).

The architectural and park ensemble of the estate is located on an area of almost 38 hectares. This estate is an example of a Russian estate in Moscow at the turn of the XVIII century and XIX century.

The territory of the estate is presented as follows – the route leads through the main entrance, followed by a dam across the Lyubuch River, then the place where the estate itself is located. The estate has an extension on the right (east) and an extension on the left (west). The outbuildings and the estate are connected by two colonnades. The roof of the palace is decorated with a belvedere, which is the dominant axis of the main facade.

Today, the Ostafyevo Museum-Estate is considered the most beautiful estate in Moscow and the most famous estate in the territory of the Troitskiy and Novomoskovsky administrative districts, annexed to the city of Moscow in 2012, its unique calling card. The restoration of the Ostafyevo Museum- Estate is recognized as one of the best. Documents indicate that the estate was built at the end of the XVIII century. The exact data have not been preserved, but there are suggestions that the estate was built either by the Matvey Kazakov school of architects or by architects Nikolai Lvov and Ivan Starov (Figure 4).

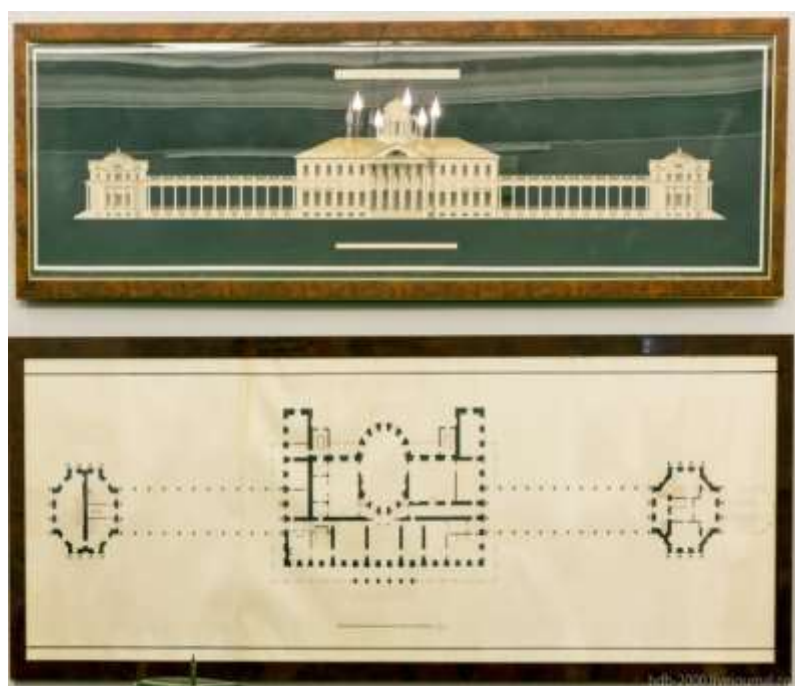


Figure 4. Ostafyevo. Project of a estate house of the 18th century.

Source: Drawing by E. I. Starov. (n/f)

Ostafyevo Estate is an estate with a rich cultural history. In the 19th century, literary figures of various popularity met here. Even such popular personalities as Alexander Pushkin, Nikolai Gogol, Alexander Griboyedov, Vasily Zhukovsky, Adam Mickiewicz, Wilhelm Kuchelbecker and many others visited here. The estate was then considered the literary center of Moscow. It is worth noting that Alexander Sergeevich Pushkin often visited the estate.

Later, the historiographer Nikolai Karamzin lived in the Ostafyevo estate (from 1804 to 1815). Nikolai Karamzin's wife was the daughter of the owner of the estate, Prince Andrei Vyazemsky. Here Nikolai Karamzin wrote all eight volumes of *The History of the Russian State*.

The estate has significantly changed its appearance after it was bought by Andrey Vyazemsky. He made a palace here and landscaped the park. Until the end of the 19th century, the estate remained in the possession of the Vyazemskys (Vyazemskys, 1879). Then the estate was bought by Count Sergei Sheremetev at the end of the XIX century. In 1899, Sergei Sheremetev decided to organize a museum in the building dedicated to the historical and literary heritage of the estate. So it became the first publicly accessible museum in Russia associated with the name of Alexander Pushkin (Ostafyevo Museum- Estate).

In the period from the revolution to 1988, the object underwent a number of changes, since its purpose changed several times during this period. Initially, it was transformed into a pioneer camp, then into a rest home for top officials of the Central Communist Party of the Soviet Union. During this time, a lot changed in the internal and external structure of the estate. Many elements in the classicism style were violated. In 1988, the estate was finally turned into a museum. From 1988 to 1994, the estate was a branch of the State Pushkin Museum, which in 1994 it received federal status.

Since 1995, the estate has become an object of cultural heritage, which has federal significance. At the end of the last century, a whole list of works was carried out to restore and strengthen the estate. As part of the restoration, the area surrounding the palace was also transformed. In addition, as many as five monuments around the estate were repaired, landscaping of the glades and meadows that surround the estate and many other works were carried out. Later, the historical birch, or Karamzin, grove was restored. It is located on the territory of the estate's forest park, and is also classified as a cultural heritage site of regional significance.

Of all the halls that exist in the estate, only the oval hall has reached us in its original form. In the oval hall, instead of the window openings of the 30s of the last century, six doors leading to the park were restored again. Afterwards, the ceiling cornice with stucco molding was restored, the capitals and bases of the semi-columns were restored.

The basis for the restoration work was field studies of the estate, as well as its historical documents. So, during the restoration process, the following work was carried out: the belvedere was recreated; the facades were recreated; the old layout was returned; the entire interior of the estate was completely restored (Figure 5)

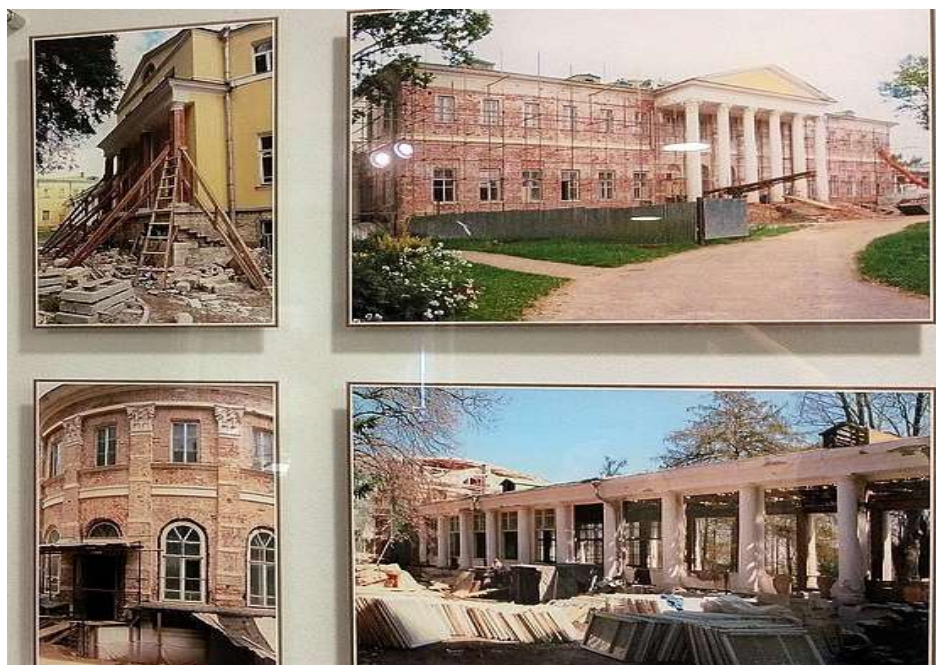


Figure 5. Fragments of the restoration of the Ostafyevo estate. Photo by Pamsik (n/f)

Another equally important part of the restoration of the museum-estate is the reconstruction of the historical and household environment of the estate, which it had in the first third of the XIX century. Most of all, this part suffered in the front halls on the ground floor. The historical and household environment consists of furniture that was in the house when the princes Vyazemsky lived, books, paintings, graphics, decorative and applied arts. A lot of historical and household objects were kept for a long time in the Museum's Fund Collection and in the Moscow Ostankino Museum-Estate.

In 2017, the project under study was a laureate in a competition called "Moscow Restoration". For sixteen years, various specialists have been engaged in recreating the facade, as well as the interior, based on archival documentation, photos and watercolors that have survived to this day.

Today, the Ostafyevo Museum-Estate has four permanent exhibitions and several temporary exhibitions. At the beginning of the main exhibition, you can see one of the very first exhibits of the museum - a bust of an Amazon. Also interesting exhibits of the museum-estate are wooden angels, which are more than 400 years old. Pavel Vyazemsky also bought these angels at one time. Initially, the angels were supposed to hold crosses in their hands, according to researchers, these crosses were from the Catholic Church in Germany, but now they have made candlesticks. Fragments of antique sculpture can be seen in the library. These fragments were formed during the I-II century AD.

In turn, there is an exposition on the second floor, which was dedicated directly to N. Karamzin. Guests can visit his office, where a large number of works were created.

The medal's office is located in another building. It is worth noting that it is the only one in our country. There are about 20 thousand medals on which there are images of the rulers of Russia, as well as poets, historians and other famous figures. The most ancient of them are more than three centuries old.

The estate complexes originally contained a museum function. The landowners collected a wide variety of collections, which allows them to recreate the decoration of the estate and, using the preserved exhibits, transform it into a museum. Attracting both domestic and foreign visitors makes it possible to raise tourism activities to a new level (Luzyanina, 2022). Numerous advertising campaigns, ongoing events, the revival of former enterprises on the territory of the estates, allow maintaining the functionality of the reconstructed facilities.

A comparative analysis of the House of Romanov Boyars and the Ostafyevo Museum- Estate is presented in Figure 6.

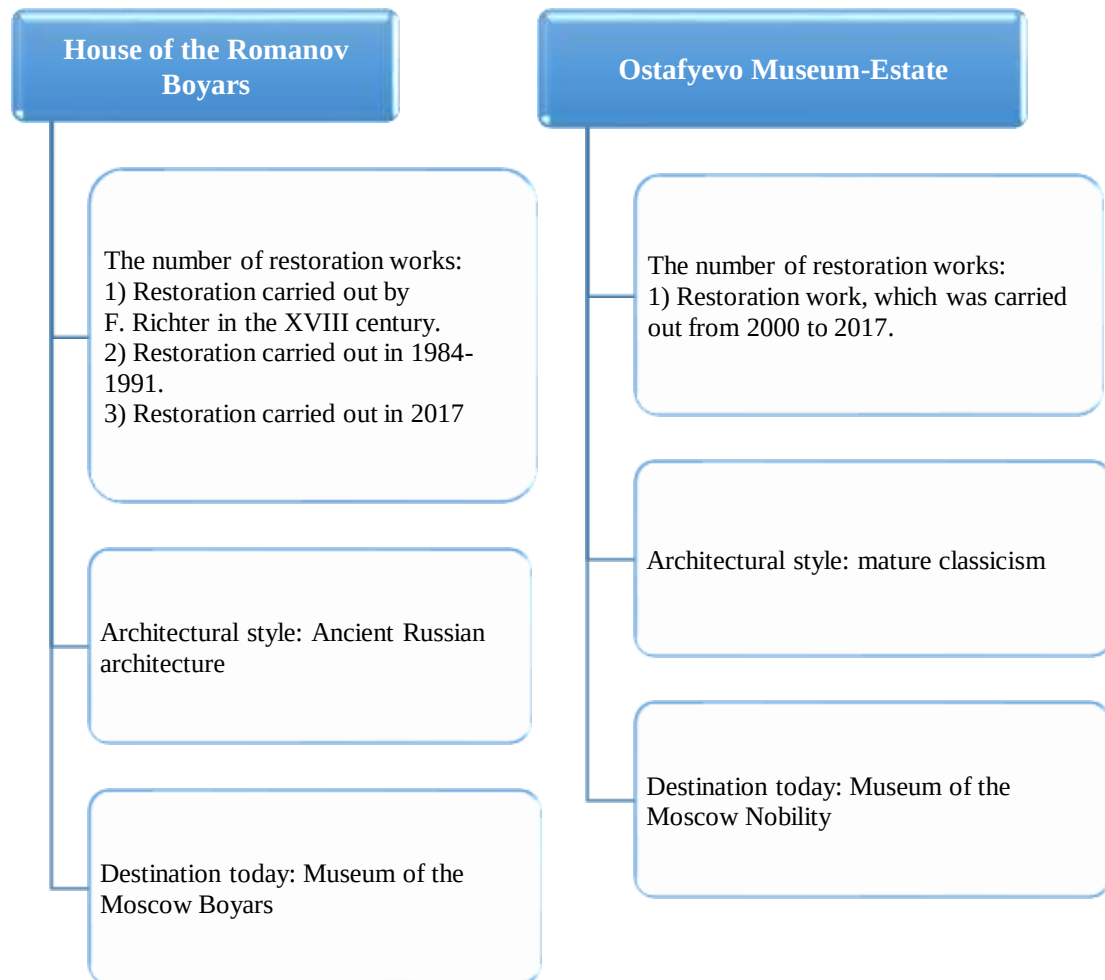


Figure 6. Comparative analysis of the restoration work of the House of Romanov Boyars and the Ostafyevo Museum-Estate.

A comparative analysis of the restoration activities of Moscow megaprojects in the world cultural heritage system shows their similar and distinctive features. Based on the results of the analysis of literary and archival original data for two projects, it was possible to:

The comparative analysis of restoration activities of Moscow megaprojects in the system of world cultural heritage shows their similar and distinctive features. Based on the results of the analysis of literary and archival original data for two projects, it was possible to:

- Clarify and complete the evolution of the interpretation of existing approaches to the concept of "estate restoration";
- Compose a periodization of the history of the restoration work carried out on two estates, taking into account scientific approaches to the problem in recent decades;
- Systematize the stages of the implementation of the concept of rational use of architectural monuments in terms of their museification and popularization in the world community and identify the specific features of its development in the Russian Federation.

The analysis of the historical stages of the Russian estate restoration system gives grounds to assert that the study of the concept of continuous restoration of the stylistic architectural appearance of the monument and its further museum use as an experience of its implementation in modern Russia can be useful for other countries.

The practical significance of the research lies in the fact that analytical work with estate architecture and its associated environment makes a significant contribution to the comprehensive study of the problem of

creating an optimal system for the preservation of cultural heritage objects and their popularization both in our country and around the world, as well as to expand and strengthen scientific and cultural cooperation.

Conclusion

In the course of our research, we identified and characterized the following structural components of the Moscow megaproject restoration system, each of which performs its own specific tasks, united by a common goal:

- The principle of historicism, which assumes minimal interference with the historical material of an architectural object with maximum preservation. The estates existing in our time with their losses, later layering and established links with the architectural and spatial environment should preserve through restoration the historical correspondence to the original appearance of the monument, including distorting alterations, but this is not always possible due to the surviving documentary material;
- The principle of stylistic restoration, which requires taking into account the authenticity of the architectural style, differs from the usual repair and construction practice. The advantage in estate restoration, as examples have shown, was given to special methods of strengthening, and only in extreme cases it was allowed to replace the original material in artistically active elements of the monument — carved details, paintings, masonry walls or structures. The more historical and artistic information one or another element of the monument carries, the more clearly the requirement to preserve its authenticity becomes;
- The principle of differentiation, focused on creating the necessary conditions for the most complete manifestation of the restoration methods chosen for each estate project, and providing the opportunity and freedom to choose an individual way to solve restoration tasks, taking into account scientific interests and values. A group of factors for the preservation of the estate has been identified (the fact of the preservation of the core of the estate, the presence of the use of the main house or only fragments, or the inclusion of the layout of the landscape environment).

Thus, it can be concluded that the importance of historical and cultural heritage in the XX-XXI centuries is one of the priorities of world culture and politics. The analysis of the state of the monuments of the manor culture of Moscow, the Romanov House and the Ostafyevo Museum- Estate showed:

- The feasibility of certain functions depends on the characteristics of the estate itself and its context, expressed in the factors of historical, cultural and investment attractiveness, indicates the expediency of the restoration and museumification.
- The study of the estate, its restoration and museumification are necessary conditions for the preservation of cultural heritage. The manor is understood as a sign of Russia, a symbol of Russian culture.
- Thanks to the restoration, and in certain cases, the museumification of estates, it is possible to preserve a whole layer of cultural and historical heritage of entire cities.
- Activities in the field of preservation of cultural heritage sites require a lot of effort and professionalism on the part of restorers.

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Undergraduate students' attitudes towards the role of digital geographic journalism in promoting tourism in Aseer region in Saudi Arabia

اتجاهات طلبة المرحلة الجامعية نحو دور الصحافة الجغرافية الرقمية في الترويج للسياحة في منطقة عسير
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Abstract

This study investigates undergraduate Students' attitudes towards digital geographic journalism in promoting tourism in the Aseer region of Saudi Arabia. The region, rich in cultural heritage and natural beauty, remains underdeveloped in tourism. Digital geographic journalism, which uses digital tools to create engaging geographical stories, could enhance tourism promotion efforts. The research assesses students' awareness, evaluates the perceived effectiveness of digital geographic journalism, and identifies factors influencing their attitudes.

A quantitative survey was conducted with 225 undergraduate Students in the Aseer region. Data were collected through a structured questionnaire and analyzed using descriptive statistics, cross-tabulation, and correlation analysis.

Findings reveal a strong positive perception of digital geographic journalism's role in tourism promotion. Students recognized the importance of social media accounts as digital geographic journalism and highlighted the need for investment, effort, time, and modern technologies. Significant correlations between content quality and students' knowledge about tourist sites suggest that improved digital content can boost tourism engagement.

The study underscores digital geographic journalism's potential as a tool for promoting

ملخص

تبحث هذه الدراسة في مواقف طلاب المرحلة الجامعية تجاه الصحافة الجغرافية الرقمية في الترويج للسياحة في منطقة عسير بالمملكة العربية السعودية. المنطقة، الغنية بالتراث الثقافي والجمال الطبيعي، لا تزال تحت التطوير في مجال السياحة. يمكن للصحافة الجغرافية الرقمية، التي تستخدم الأدوات الرقمية لإنشاء قصص جغرافية جذابة، أن تعزز جهود الترويج السياحي. يقيم البحث وعي الطلاب، ويقيم الفعالية المتصورة للصحافة الجغرافية الرقمية، ويحدد العوامل التي تؤثر على مواقفهم.

أجري مسح كمي مع 225 طالبًا جامعيًا في منطقة عسير. تم جمع البيانات من خلال استبيان منظم وتحليلها باستخدام الإحصاء الوصفي والجدولة المتقاطعة وتحليل الارتباط.

تكشف النتائج عن تصور إيجابي قوي لدور الصحافة الجغرافية الرقمية في الترويج السياحي. أدرك الطلاب أهمية حسابات وسائل التواصل الاجتماعي كصحافة جغرافية رقمية وأبرزوا الحاجة إلى الاستثمار والجهد والوقت والتقنيات الحديثة. تشير الارتباطات المهمة بين جودة المحتوى ومعرفة الطلاب بالمواقع السياحية إلى أن المحتوى الرقمي المحسن يمكن أن يعزز المشاركة السياحية.

وتؤكد الدراسة على إمكانات الصحافة الجغرافية الرقمية كأداة للترويج للسياحة في عسير. وتقدم رؤى لصناع

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tourism in Aseer. It offers insights for policymakers and marketers, emphasizing the importance of technological investment and high-quality content to attract tourists.

Keywords: Digital Geographic Journalism, Tourism Promotion, Aseer Region, Undergraduate Students' Attitudes, Social Media, Saudi Arabia Vision 2030.

السياسات والمسوقين، مؤكدة على أهمية الاستثمار التكنولوجي والمحتوى عالي الجودة لجذب السياح. الكلمات المفتاحية: الصحافة الجغرافية الرقمية، الترويج السياحي، منطقة عسير، مواقف الطلاب الجامعيين، وسائل التواصل الاجتماعي، رؤية المملكة العربية السعودية

Introduction

The Aseer region, located in the southwestern part of Saudi Arabia, is renowned for its rich cultural heritage, stunning landscapes, and unique architectural styles. It boasts a variety of tourist attractions, including the historic village of Rijal Almaa, the scenic mountains of Al Soudah, and the traditional markets of Abha. Despite its potential, the region's tourism industry remains underdeveloped compared to other parts of the Kingdom. Efforts to promote Aseer as a tourist destination are ongoing, with a focus on leveraging its natural beauty and cultural assets to attract both domestic and international visitors.

Tourism is considered a key sector in Saudi Arabia's Vision 2030, which aims to diversify the economy and reduce dependency on oil revenues. The Aseer region is identified as a potential tourism hub due to its moderate climate, natural beauty, and cultural significance. Initiatives like the development of tourism infrastructure and the promotion of local culture and traditions are part of the broader strategy to enhance the region's appeal to tourists (Saudi Vision 2030, 2016).

Digital geographic journalism refers to the use of digital tools and platforms to report on geographical and location-based stories. This form of journalism utilizes interactive maps, geotagging, multimedia content, and social media to create engaging and informative narratives. It plays a crucial role in contemporary journalism by making geographical information more accessible and engaging to the public. Through digital geographic journalism, audiences can explore places virtually, gain insights into various locations, and engage with interactive content that enhances their understanding and interest (Pavlik, 2008; Fenton, 2010).

Digital geographic journalism has transformed how people consume news and information about the world around them. By incorporating elements like digital maps, geotagging, and multimedia content, journalists can provide a richer, more interactive experience. This approach not only helps in telling compelling stories but also in making complex geographical information more understandable and relatable (Robinson, 2010; Deuze, 2008).

While there is a growing body of research on digital journalism and its applications, there is a lack of studies focusing specifically on digital geographic journalism and its role in promoting tourism in the Aseer region. Additionally, understanding the attitudes of undergraduate Students towards this form of journalism is crucial, as they represent a significant segment of the digital audience and potential influencers in tourism promotion. Undergraduate Students are often early adopters of new technologies and digital trends, making their perceptions and attitudes valuable for shaping effective tourism marketing strategies (Hermida, 2010; Bruns, 2011).

Exploring this research gap is essential for several reasons. First, it helps in understanding how digital geographic journalism can be leveraged to enhance tourism promotion efforts. Second, it provides insights into the preferences and behaviors of undergraduate Students, who are key target audiences for digital content. Third, it contributes to the broader literature on digital journalism and its impact on various sectors, including tourism (Singer, 2007).

The primary aim of this research is to explore undergraduate Students' attitudes towards the role of digital geographic journalism in promoting tourism in the Aseer region of Saudi Arabia. By examining their perceptions, this study seeks to provide insights into how digital geographic journalism can be leveraged to enhance tourism promotion efforts in this culturally rich and scenic region. Specifically, the research aims to:

1. Assess undergraduate Students' awareness and understanding of digital geographic journalism.
2. Evaluate their perceptions of the effectiveness of digital geographic journalism in promoting tourism.
3. Identify the factors that influence their attitudes towards digital geographic journalism.
4. Provide recommendations for leveraging digital geographic journalism to promote tourism in the Aseer region.

This article is organized as follows: Section 2 presents the literature review, outlining the key theoretical frameworks and existing studies relevant to digital geographic journalism and tourism promotion. Section 3 details the methodology used in the research, including data collection and analysis techniques. Section 4 present the results and discussion. Finally, Section 5 provides the conclusions.

Literature Review

The study of digital geographic journalism has gained momentum due to its profound impact on various sectors, including tourism. This literature review synthesizes the current state of research related to digital journalism, geographic journalism, and students' attitudes towards digital media and tourism promotion, particularly in the context of the Aseer region in Saudi Arabia. The review aims to provide a comprehensive understanding of the field, identify gaps, and suggest directions for future research.

Digital Journalism and Its Evolution

Digital journalism has undergone significant transformations due to advancements in technology and the internet. Traditional journalism has evolved to incorporate digital platforms, offering greater flexibility but also presenting new challenges related to credibility and professionalism (Farid, 2023). Digital journalism includes various forms such as blogs, social media posts, online news websites, and video content. The practice of digital journalism has significantly expanded the reach of news while enhancing audience engagement (Pavlik, 2008; Hermida, 2010). Burgess and Hurcombe (2021) define digital journalism by exploring its evolving relationship with the internet and social media platforms, underscoring the need for both the study and practice of digital journalism in the public interest.

The growing use of data science in digital journalism, including text mining, event extraction, and recommendation systems, indicates a rapidly evolving field. Nearly half of the research in this area has been published in the last three years, highlighting the increasing role of advanced technologies in journalism (Fernandes, Moro, & Cortez, 2023). New journalistic formats, such as immersive journalism and augmented reality, are also gaining traction, enhancing the ways in which information is presented and consumed (Lopezosa et al., 2023). Eldridge et al. (2021) emphasize the importance of interdisciplinary research in understanding digital journalism, providing an overview of key concepts and themes.

Training in digital journalism can significantly enhance the ability of students to contribute to tourism promotion. Kartinawati and Purwasito (2024) emphasize the importance of equipping students with journalistic skills to create engaging and informative content that can be published on various media platforms. By learning how to produce high-quality journalistic products, students can play a vital role in promoting their local tourism destinations.

Digital Tourism

News Framing in Digital Tourism Journalism

News framing in digital tourism journalism involves the strategic presentation of information to influence public perception and understanding of tourism destinations. Journalists use framing techniques to emphasize certain aspects of a story, thereby shaping the audience's interpretation of events. In the context of tourism, effective news framing can highlight the cultural, historical, and recreational value of destinations, making them more attractive to potential visitors (Ariestyani, 2020).

Development of Digital Tourism

The development of digital tourism is closely linked to advancements in internet technologies and e-marketing. Khurramov (2020) discusses how digitalization has transformed the tourism industry, making it more competitive and customer-focused. The integration of digital tools in tourism enhances the overall

experience for travelers by providing personalized services, virtual tours, and real-time updates. This digital shift also benefits tourism businesses by increasing their reach and efficiency.

Impact of Digitalization on Tourism

The impact of digitalization on tourism is profound, as highlighted in multiple studies. Xiang et al. (2023) explore how digital tools and platforms are revolutionizing the tourism industry by offering new ways to engage with potential tourists. These tools include virtual tours, augmented reality, and personalized travel recommendations, which enhance the overall travel experience and attract more visitors.

Digital Marketing in Tourism

Digital journalism plays a crucial role in promoting tourism by providing extensive coverage of travel destinations, sharing tourist experiences, and offering practical information for travelers. Digital content marketing (DCM) within digital journalism uses engaging content to attract and retain tourists. The effectiveness of DCM in influencing tourist visits has been substantiated by several studies. For instance, Sari et al. (2023) highlighted that digital content marketing significantly influences tourists' decisions to visit destinations by providing appealing and informative content through websites and social media platforms.

Digital marketing in tourism encompasses the use of online platforms to market tourist destinations and services. This includes social media marketing, email campaigns, and search engine optimization (SEO) to reach a broader audience. The study on "Digital Marketing in Tourism" emphasizes the importance of digital marketing strategies in enhancing the visibility and attractiveness of tourist destinations (Opreana & Vinerean, 2015; Happ & Ivancsó-Horváth, 2018). It suggests that digital marketing efforts are crucial for engaging potential tourists and encouraging them to visit.

Impact of Digital Journalism on Tourism

The integration of digital journalism into tourism marketing has been significant. Digital platforms provide immediate access to news updates and promotional content, creating awareness and interest in various tourist destinations (Ariestyani, 2020). Social media and digital content play crucial roles in promoting tourism destinations and managing tourism crises (Barbe & Pennington-Gray, 2020). The strategic use of influencer marketing in tourism destinations has proven effective in attracting visitors, showcasing the power of digital platforms in modern marketing strategies (Femenia-Serra & Gretzel, 2020). Burgess and Baym (2022) explore the impact of Twitter on contemporary politics and culture, highlighting the platform's role in shaping digital journalism and its implications for tourism promotion.

The dual impact of social media on tourism, both creating and addressing overtourism, underscores the complexity of digital platforms in this sector (Gretzel, 2019). Moreover, the concept of the Smart DMO (Destination Management Organization) highlights the potential of digital transformation in promoting destinations like Aseer by leveraging smart tourism governance (Gretzel, 2022). Tuomi (2023) discusses the implications of AI-generated content for marketing in the hospitality and tourism industries, providing insights into the potential of AI in enhancing digital journalism for tourism promotion.

Digital Geographic Journalism

A subset of digital journalism, Digital geographic journalism, focuses on the spatial dimensions of news, emphasizing the role of location in storytelling. This approach is particularly relevant for promoting tourism, as it provides detailed and immersive experiences of travel destinations (Lopezosa et al., 2023). Digital geographic journalism utilizes digital maps, geospatial data, and interactive content to create rich, engaging stories that convey complex geographical information in an accessible manner (Robinson, 2010; Fenton, 2010). Robinson (2010) notes that this form of journalism fosters a more interactive relationship between journalists and their audiences, leading to more informed and engaged communities. The use of geotagging and location-based services allows for real-time updates and personalized content, making it a powerful tool for engaging audiences with geographical information (Deuze, 2008).

Digital maps and geotagged information allow tourists to explore destinations virtually before their actual visit, enhancing their overall experience. Interactive content such as 360-degree videos, virtual tours, and

real-time updates can attract tourists by providing a comprehensive view of the destination (Tussyadiah & Fesenmaier, 2009; Gretzel et al., 2000). Franklin (2013) emphasizes that the practice of geographic journalism involves using advanced digital tools to create rich, interactive content that can provide deeper insights into a location's culture, history, and attractions. This form of journalism is particularly effective in promoting tourism as it offers immersive content that can entice potential tourists.

In other regions, digital geographic journalism has been successfully used to promote tourism. For example, in Australia, digital storytelling and interactive maps have been used to highlight tourist attractions, leading to increased visitor engagement and tourism growth (Gretzel et al., 2000). Similarly, in Europe, digital geographic journalism has played a crucial role in promoting lesser-known destinations by providing detailed and engaging content that attracts tourists (Buhalis & Law, 2008). Digital geographic journalism also helps in managing tourist expectations and experiences by providing accurate and up-to-date information. This can enhance the overall satisfaction of tourists and encourage repeat visits. Additionally, it supports sustainable tourism practices by educating tourists about the cultural and environmental significance of the destinations they visit (Gretzel et al., 2000).

Students' Attitudes Towards Digital Media

Undergraduate students are a key demographic in the digital age, often leading the adoption of new technologies and digital platforms. Their attitudes towards digital media and its applications provide valuable insights into the effectiveness of digital strategies. Younger demographics, including undergraduate students, are more likely to engage with digital content and trust online sources for travel information (Mathew & Soliman, 2021). Their attitudes towards digital journalism are shaped by their daily interactions with social media and the digital content they consume (Purington Drake et al., 2023). Masur, Bazarova, and DiFranzo (2023) analyze social norms and self-disclosure on social media, highlighting how these norms influence users' behavior and shaping students' attitudes towards digital journalism.

Social media literacy is crucial in enhancing the impact of digital journalism. A systematic literature review on social media literacy emphasizes its importance in navigating digital platforms effectively, promoting critical engagement with digital content (Valle et al., 2024). Furthermore, the development of comprehensive social media literacy inventories highlights the significance of educating young audiences to mitigate risks and encourage positive engagement (Purington Drake et al., 2023). Jensen et al. (2021) discuss the convergence of computer and social sciences in analyzing social media data, highlighting the potential of digital traces in understanding human behavior. Taylor, Zhao, and Bazarova (2022) discuss the dual effects of social media on close relationships, providing insights into how digital platforms can both connect and disconnect users, which is relevant for understanding how digital journalism impacts audience engagement.

Tourism Promotion in the Aseer Region

The Aseer region, known for its rich cultural heritage and natural beauty, has been a focal point for tourism promotion. Digital journalism can significantly enhance the visibility of this region, attracting both domestic and international tourists (Gretzel, 2022). Efforts are being made to highlight Aseer's unique attractions, such as its historical villages, traditional crafts, and natural beauty, to position it as a prime tourist destination. The Saudi government's Vision 2030 plan aims to boost tourism by developing infrastructure, promoting cultural heritage, and enhancing visitor experiences (Saudi Vision 2030, 2016).

Gaps in the Literature

While the existing research provides valuable insights, there are notable gaps. More empirical studies on the effectiveness of digital geographic journalism in promoting specific regions like Aseer are needed. Additionally, the role of student-generated content in tourism promotion remains underexplored.

Research Methodology

Research Design

This study employed a quantitative research design to explore the attitudes of undergraduate Students towards the role of digital geographic journalism in promoting tourism in the Aseer region of Saudi Arabia.

A cross-sectional survey was used to collect data from a sample of undergraduate Students, utilizing a structured questionnaire to capture their perceptions and attitudes.

Participants

The participants of this study were 225 students of the media department at King Khalid University in Abha, Aseer region, KSA. The selection criteria included being currently enrolled in a university and having access to digital geographic journalism through social media or other digital platforms. Convenience sampling was used to select participants due to the ease of accessibility and willingness to participate.

Instrumentation

A structured questionnaire was developed for data collection, comprising 12 items related to digital geographic journalism and its impact on promoting tourism. Each item was measured on a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree" for most items, and from "Rarely" to "Always" for the item related to following accounts on social media. The items covered various aspects such as the contribution of digital geographic journalism to tourism promotion, the resources required for these accounts to succeed, and the personal benefits gained from following these accounts.

Questionnaire Items:

1. Social media accounts mentioned above are a type of digital geographic journalism.
2. Digital geographic journalism accounts contribute to promoting tourism in the Aseer region.
3. Digital geographic journalism accounts need money to succeed.
4. Digital geographic journalism accounts need time to succeed.
5. Digital geographic journalism accounts need effort to succeed.
6. Digital geographic journalism accounts need connections to succeed.
7. We need to invest in these accounts better to promote tourism in the Aseer region.
8. These digital geographic journalism accounts contribute to increasing tourism content about the Aseer region.
9. These digital geographic journalism accounts need modern and new technologies to enhance their role in promoting tourism in the Aseer region.
10. These digital geographic journalism accounts have no real role in promoting tourism in the Aseer region.
11. I benefit from these digital geographic journalism accounts to learn about tourist sites in the Aseer region.
12. I follow these accounts on social media.

Data Collection

The data was collected in Arabic language and then translated into English language.

Data collection was conducted using an online survey platform to facilitate easy access and response from participants. The survey link was distributed through various digital channels, including university email lists, social media groups, and direct messaging. Participants were informed about the purpose of the study, and their consent was obtained before they began the survey. The survey was open for responses for a period of one month.

Data Analysis

The collected data were analyzed using descriptive and inferential statistical methods. Descriptive statistics, including means and standard deviations, were calculated to provide an overview of the responses. Frequency distributions were plotted for each survey item to visualize the spread of responses.

Cross-tabulation analysis was performed to explore the relationships between different survey items, and heatmaps were used to visualize these relationships. Pearson correlation analysis was conducted to identify significant correlations between the survey items, and a correlation matrix heatmap was generated to illustrate the strength and direction of these relationships.

Pair plots were created for highly correlated pairs of survey items to provide a deeper understanding of the relationships between these variables.

Ethical Considerations

This study adhered to ethical guidelines for research involving human participants. Informed consent was obtained from all participants, ensuring they were aware of the purpose of the study, their right to withdraw at any time, and the confidentiality of their responses. Data were anonymized to protect participants' identities, and the study was conducted in compliance with the ethical standards of the researchers' institution.

Statistical analysis was performed using **Python**, employing libraries such as **pandas** for data manipulation, **seaborn** for visualization, and **matplotlib** for generating plots. These specifications provide clarity and precision to the methodology, ensuring replicability of the results.

Results and Discussion

Descriptive Statistics

The study surveyed 225 undergraduate Students to understand their attitudes towards the role of digital geographic journalism in promoting tourism in the Aseer region of Saudi Arabia. The descriptive statistics provide a comprehensive overview of the responses, including frequencies, means, and standard deviations for each of the 12 survey questions (**Table 1**) and (**Figures 1 to 12**).

1. **Social Media Accounts:** Most students agreed or strongly agreed that social media accounts are a type of digital geographic journalism, with a mean response of 4.26 and a standard deviation of 0.64.

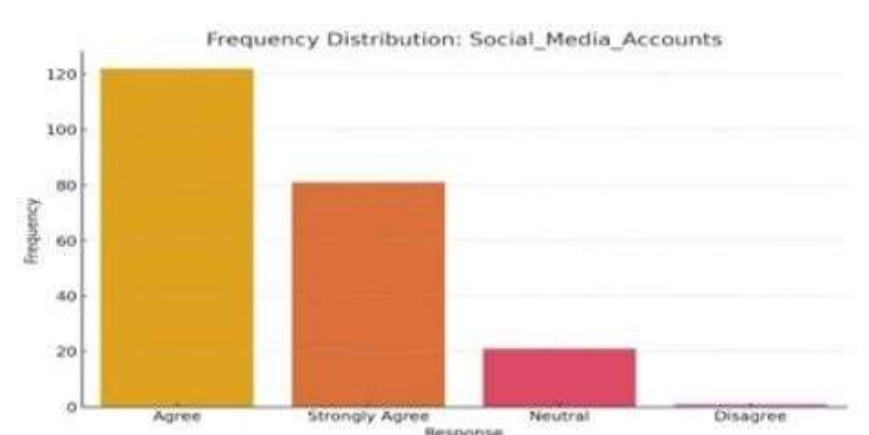


Figure 1. Frequence Distribution: Social Media Accounts.

2. **Promote Tourism:** The majority of students strongly agreed that these accounts contribute to promoting tourism in the Aseer region, with a mean of 4.48 and a standard deviation of 0.75.

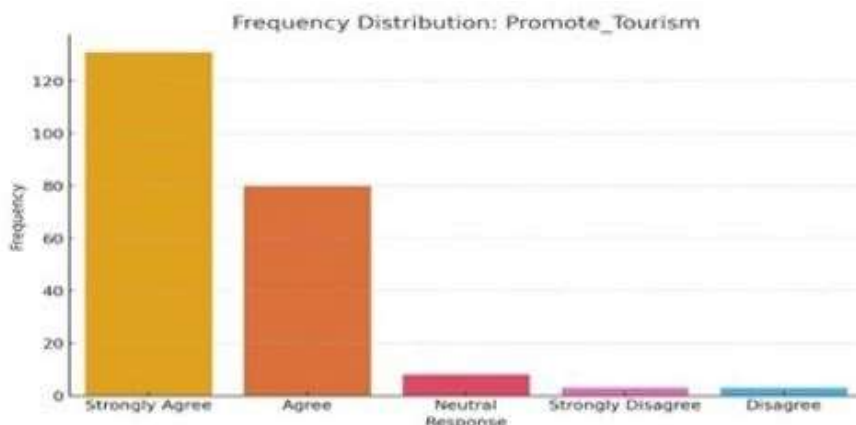


Figure 2. Frequency Distribution: Promote Tourism.

3. **Need Money:** Responses were more varied, with a mean of 3.61 and a standard deviation of 0.84, indicating that students are somewhat neutral but lean towards agreeing that money is necessary for the success of these accounts.

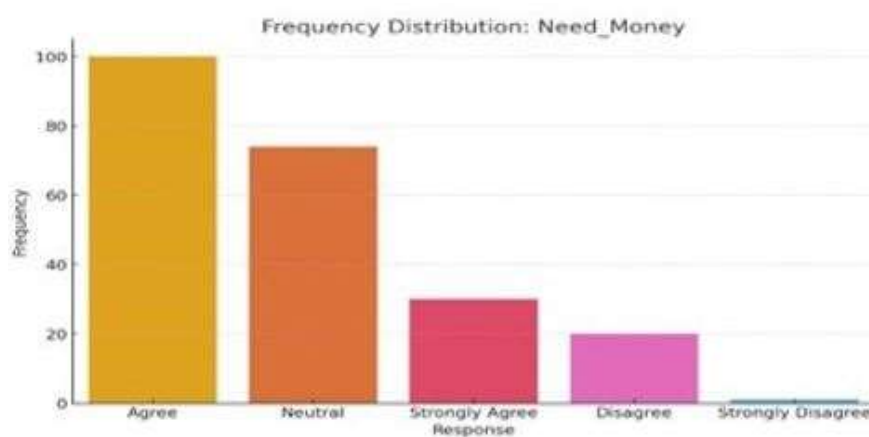


Figure 3. Frequency Distribution: Need Money.

4. **Need Time:** There was a general agreement that time is needed for the success of these accounts, with a mean of 4.14 and a standard deviation of 0.81.

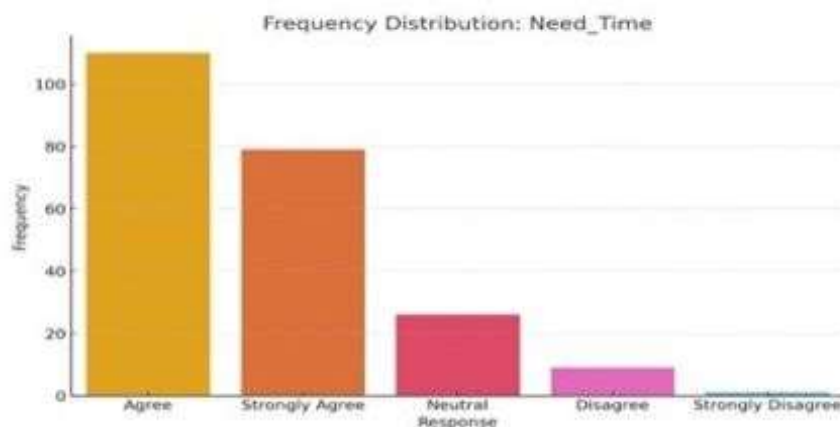


Figure 4. Frequency Distribution: Need Time.

5. **Need Effort:** Students agreed that effort is required, reflected in a mean of 4.34 and a standard deviation of 0.85.

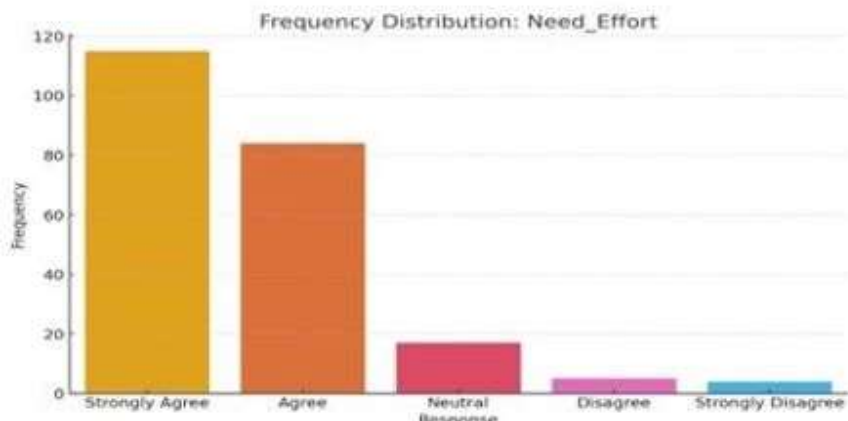


Figure 5. Frequency Distribution: Need Effort.

6. **Need Connections:** The mean response was 3.88 with a standard deviation of 1.01, showing a moderate agreement on the need for connections.

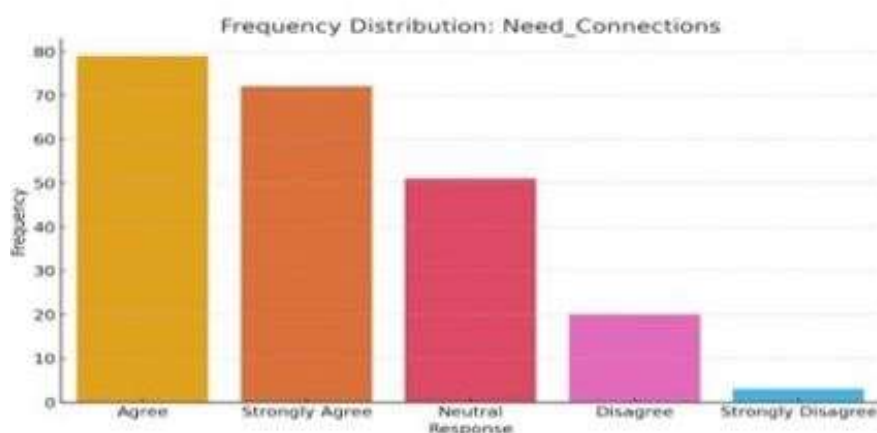


Figure 6. Frequency Distribution: Need Connections.

7. **Invest Better:** Students strongly agreed on the need to invest better in these accounts, with a mean of 4.56 and a standard deviation of 0.64.

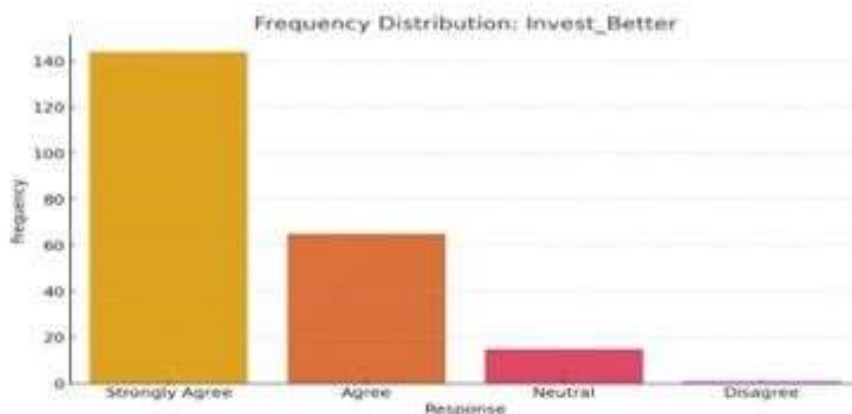


Figure 7. Frequency Distribution: Invest Better.

8. **Increase Tourism Content:** There was a strong agreement that these accounts contribute to increasing tourism content about the Aseer region, with a mean of 4.55 and a standard deviation of 0.65.

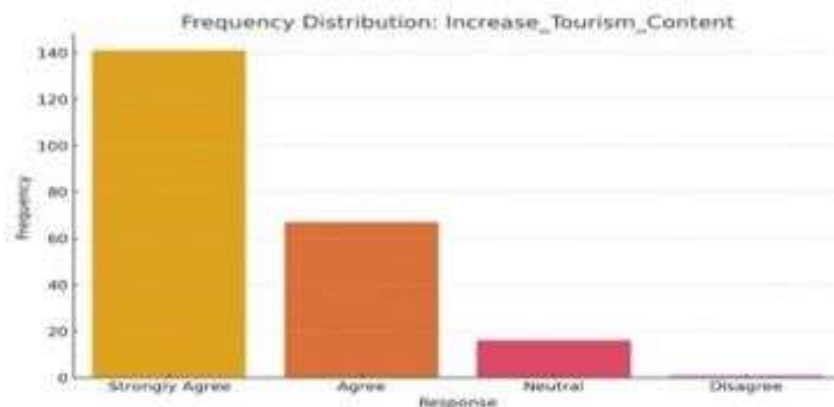


Figure 8. Frequency Distribution: Tourism Content.

9. **Need New Tech:** The responses indicated a need for modern and new technologies, with a mean of 4.19 and a standard deviation of 0.87.

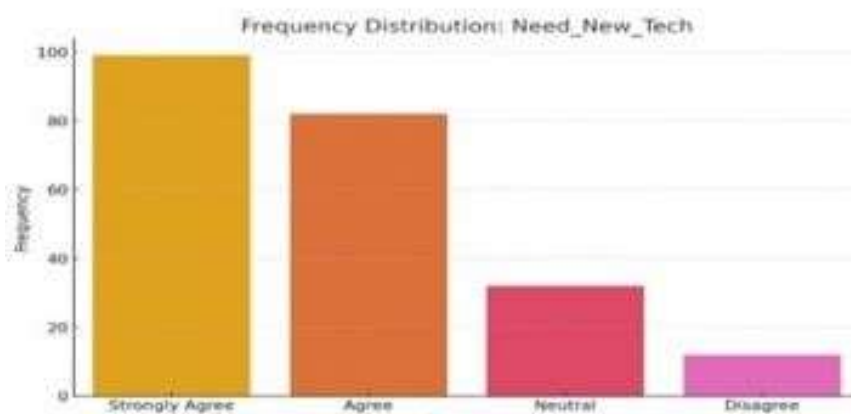


Figure 9. Frequency Distribution: Need New Tech.

10. **No Real Role:** The mean response was 2.27 with a standard deviation of 1.27, suggesting that many students disagreed with the statement that these accounts have no real role in promoting tourism.

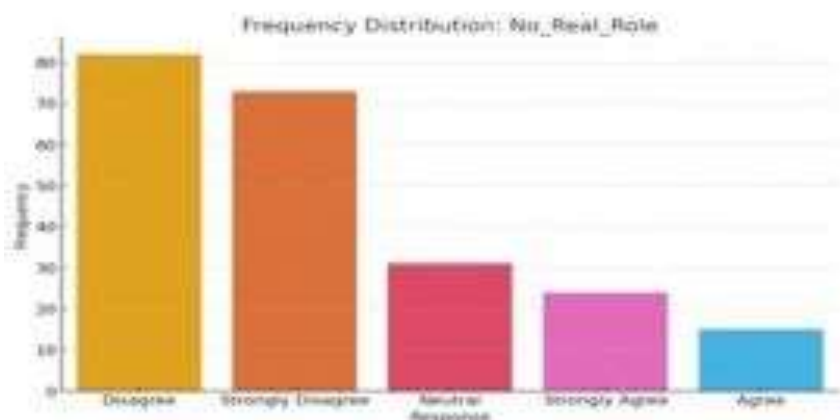


Figure 10. Frequency Distribution: No Real Role.

11. **Learn About Sites:** There was a strong agreement that students benefit from these accounts to learn about tourist sites, with a mean of 4.42 and a standard deviation of 0.70.

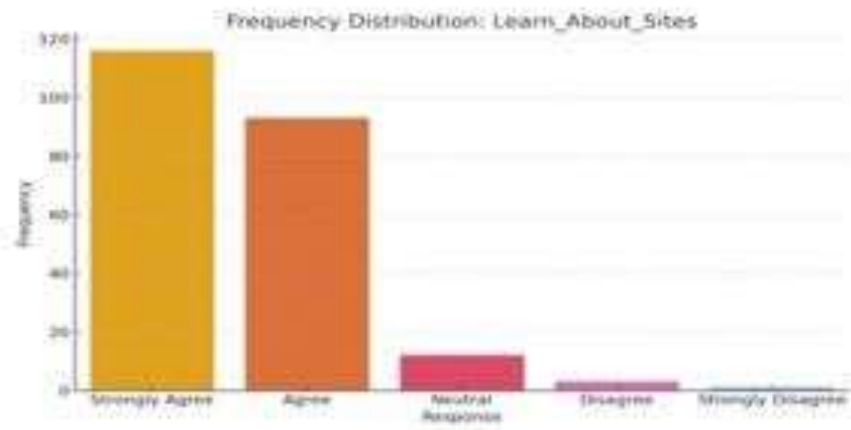


Figure 11. Frequency Distribution: Learn About Sites.

12. **Follow on Social Media:** The mean response for following these accounts on social media was 2.39 with a standard deviation of 0.84, indicating varied levels of engagement.

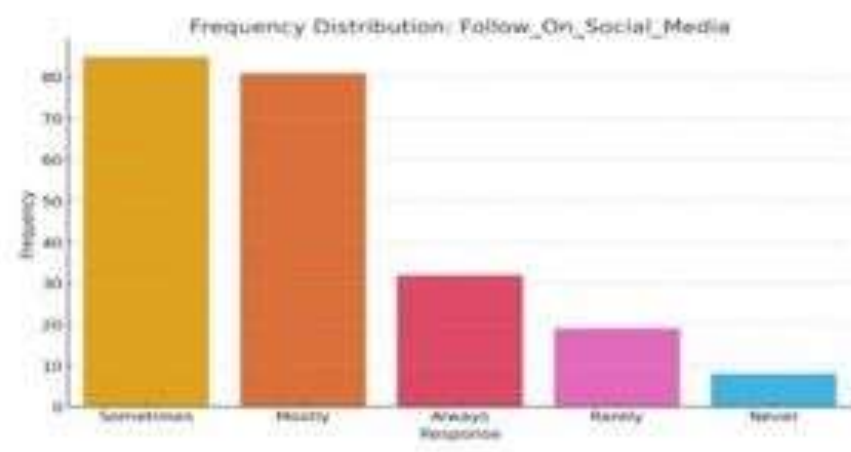


Figure 12. Frequency Distribution: Follow on Social Media.

Table 1.
Descriptive Statistics

Question	Mean	Standard Deviation
Social Media Accounts	4.26	0.64
Promote Tourism	4.48	0.75
Need Money	3.61	0.84
Need Time	4.14	0.81
Need Effort	4.34	0.85
Need Connections	3.88	1.01
Invest Better	4.56	0.64
Increase Tourism Content	4.55	0.65
Need New Tech	4.19	0.87
No Real Role	2.27	1.27
Learn About Sites	4.42	0.70
Follow on Social Media	2.39	0.84

Source: Developed by researcher.

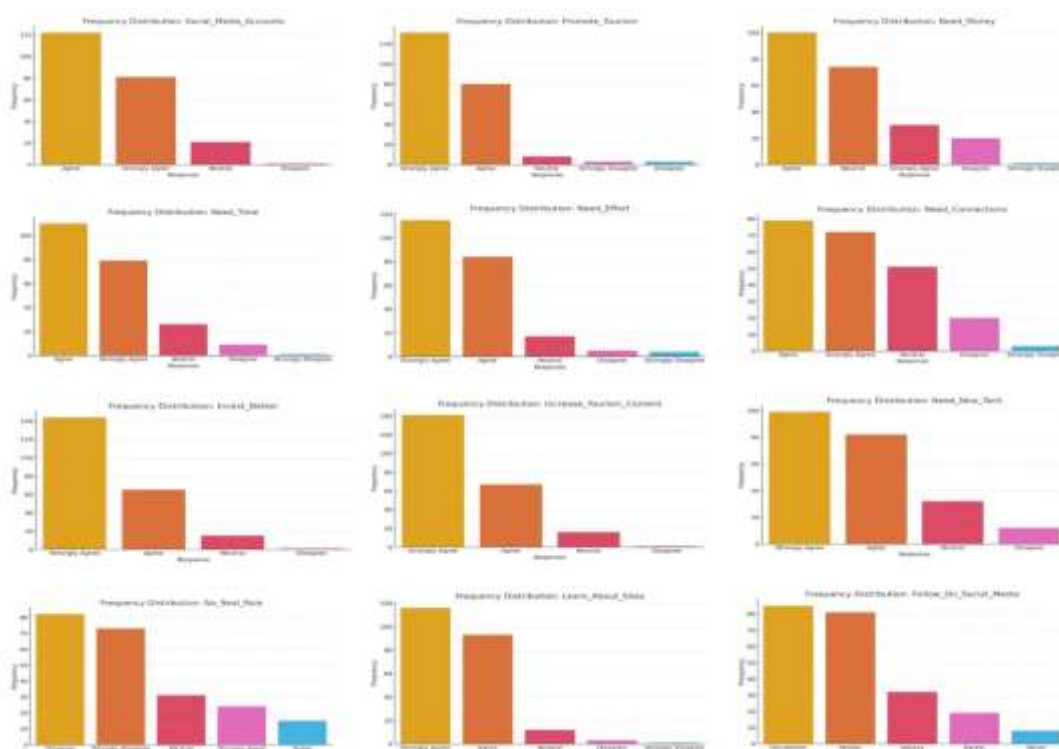


Figure 13. Frequency Distribution Charts for each survey question.

Source: Developed by researcher.

The analysis of survey responses reveals significant insights into undergraduate students' perceptions of digital geographic journalism and its role in promoting tourism in the Aseer region. Each of the surveyed dimensions is discussed below.

1. Social Media Accounts as Digital Geographic Journalism

The majority of respondents either "Agree" or "Strongly Agree" that social media accounts constitute a form of digital geographic journalism, with only a minority remaining neutral or disagreeing. This reflects a strong recognition of the role these accounts play as tools for disseminating geographic information and narratives, suggesting their potential utility in tourism promotion.

2. Contribution to Tourism Promotion

Participants overwhelmingly "Strongly Agree" that digital geographic journalism contributes to promoting tourism in the Aseer region, with minimal disagreement. This finding underscores a shared perception of its effectiveness in tourism development, aligning with the study's objectives to assess the potential of such platforms.

3. Financial Investment for Success

A significant proportion of participants indicated that financial investment is essential for the success of digital geographic journalism accounts. This highlights a perceived barrier, emphasizing the need for resource allocation to enhance the functionality and reach of these platforms.

4. Importance of Time Commitment

Respondents widely agreed that time investment is critical to the success of digital geographic journalism accounts. This suggests that building impactful platforms requires sustained and consistent effort, which stakeholders must consider in strategic planning.

5. Role of Effort in Success

A large proportion of participants recognized the importance of effort in ensuring the success of digital geographic journalism accounts, with minimal neutral or negative responses. This finding underscores the labor-intensive nature of maintaining effective platforms and reinforces the importance of strategic planning and dedication.

6. The Role of Connections

Opinions regarding the need for connections varied significantly, with a noticeable proportion expressing agreement but a substantial number remaining neutral or disagreeing. This suggests that while networking may play a role, success likely depends more on content quality and technical resources than on social connections.

7. Need for Better Investment

The majority of respondents "Strongly Agree" on the necessity for better investment in digital geographic journalism accounts to promote tourism. This reinforces the perception that improved resource allocation is crucial for leveraging these platforms effectively.

8. Increasing Tourism-Related Content

Most participants agreed that digital geographic journalism contributes to increasing tourism-related content about the Aseer region. This demonstrates a strong belief in its role as a valuable tool for creating engaging content that enhances regional visibility.

9. Technological Advancements

Participants strongly agreed on the need for modern technologies to enhance the performance and appeal of digital geographic journalism accounts. This reflects a demand for innovation and technological integration to optimize the platforms' effectiveness.

10. Perceived Role in Tourism Promotion

The majority of respondents "Strongly Disagree" with the statement that digital geographic journalism accounts have no real role in promoting tourism. This consensus confirms the impactful role these platforms play in tourism promotion.

11. Educational Value of Digital Geographic Journalism

A large proportion of respondents agreed that they benefit from these accounts by learning about tourist sites in the Aseer region. This highlights the educational value of digital geographic journalism in raising awareness about local attractions.

12. Engagement on Social Media

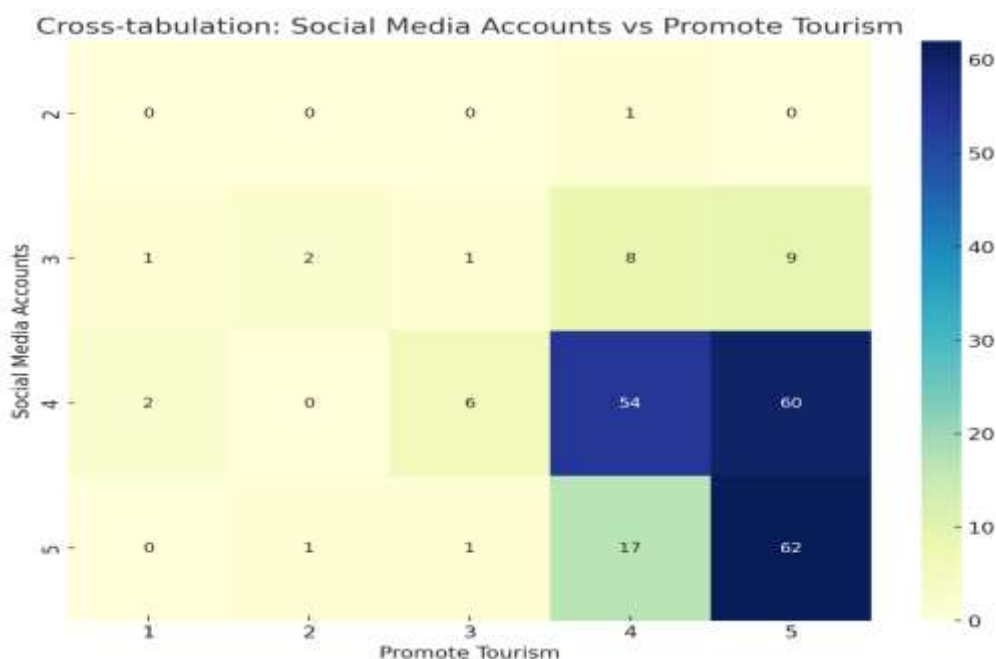
Responses regarding engagement varied, but a significant proportion of respondents "Always" or "Mostly" follow these accounts on social media. This suggests active interaction with digital geographic journalism, indicating its relevance and reach within the target audience.

Cross-tabulation Analysis

To explore relationships between different questions, cross-tabulations were performed. One significant cross-tabulation was between "Social Media Accounts" and "Promote Tourism" (**Table 2**). The heatmap revealed that students who strongly agreed that social media accounts are a form of digital geographic journalism also strongly agreed that these accounts contribute to promoting tourism (**Figure 14**).

Table 2.*Cross-tabulation analysis of Social Media Accounts vs Promote Tourism*

Social Media Accounts	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Strongly Disagree	1	0	0	0	0
Disagree	0	1	0	0	0
Neutral	0	0	1	0	0
Agree	0	0	0	1	0
Strongly Agree	0	0	0	1	0

Source: Developed by researcher.**Figure 14.** Cross-tabulation Heatmap: Social Media Accounts vs Promote Tourism.**Source:** Developed by researcher.

The analysis reveals notable patterns of agreement and correlation between the two variables.

The majority of respondents strongly agree (62 responses) that social media accounts represent a form of digital geographic journalism and that these accounts contribute significantly to promoting tourism in the Aseer region. Similarly, a substantial number of participants agree (54 responses) on the dual role of these accounts. These findings indicate a strong positive association between the recognition of social media accounts as tools for geographic journalism and their perceived utility in tourism development.

The frequencies in the neutral and disagreement categories are notably low, suggesting that most respondents hold positive views about both aspects. Specifically, sparse responses in the neutral category (coded as 3) and disagreement categories (coded as 1 or 2) further emphasize the predominant consensus among participants.

The cross-tabulation highlights a clustering of responses in the higher agreement levels (coded as 4 and 5), indicating a significant overlap in participants' perceptions of the two variables. This correlation underscores the importance of social media accounts in serving as both geographic journalism tools and effective mediums for tourism promotion.

Correlation Analysis

The correlation matrix provided insights into how responses to different questions were related (**Table 3**). Significant positive correlations included:

- **Increase Tourism Content and Learn about Sites:** A correlation of 0.466 indicated that students who believed these accounts increase tourism content also felt they learned about tourist sites from these accounts.
- **Need New Tech and Need Connections:** A correlation of 0.332 suggested that the perceived need for new technologies was related to the perceived need for connections to make these accounts successful.

The correlation matrix heatmap visually represented these relationships, highlighting strong positive and negative correlations. For example, the positive correlation between "Increase Tourism Content" and "Learn about Sites" suggested that enhancing the content on these accounts directly benefits students' knowledge about tourist sites.

Table 3.
Correlation Matrix Analysis

	Social Media Accounts	Promote Tourism	Need Money	Need Time	Need Effort	Need Connections	Invest Better	Increase Tourism Content	Need New Tech	No Real Role	Learn About Sites
Social Media Accounts	1.000	0.306	0.255	0.110	0.228	0.223	0.178	0.144	0.031	-0.167	0.306
Promote Tourism	0.306	1.000	0.219	0.094	0.155	0.156	0.149	0.229	-0.025	-0.148	0.353
Need Money	0.255	0.219	1.000	0.214	0.134	0.326	0.175	0.021	0.283	0.204	0.013
Need Time	0.110	0.094	0.214	1.000	0.110	0.204	0.078	0.090	0.126	0.024	0.091
Need Effort	0.228	0.155	0.134	0.110	1.000	0.190	0.067	0.174	0.105	-0.141	0.120
Need Connections	0.223	0.156	0.326	0.204	0.190	1.000	0.221	0.126	0.332	0.186	0.024
Invest Better	0.178	0.149	0.175	0.078	0.067	0.221	1.000	0.298	0.230	-0.087	0.214
Increase Tourism Content	0.144	0.229	0.021	0.090	0.174	0.126	0.298	1.000	0.273	-0.091	0.466
Need New Tech	0.031	-0.025	0.283	0.126	0.105	0.332	0.230	0.273	1.000	0.163	0.109
No Real Role	-0.167	-0.148	0.204	0.024	-0.141	0.186	-0.087	-0.091	0.163	1.000	-0.117
Learn About Sites	0.306	0.353	0.013	0.091	0.120	0.024	0.214	0.466	0.109	-0.117	1.000
Follow on Social Media	0.197	0.261	0.147	0.174	0.216	0.194	0.175	0.292	0.199	-0.182	0.351

Source: Developed by researcher.

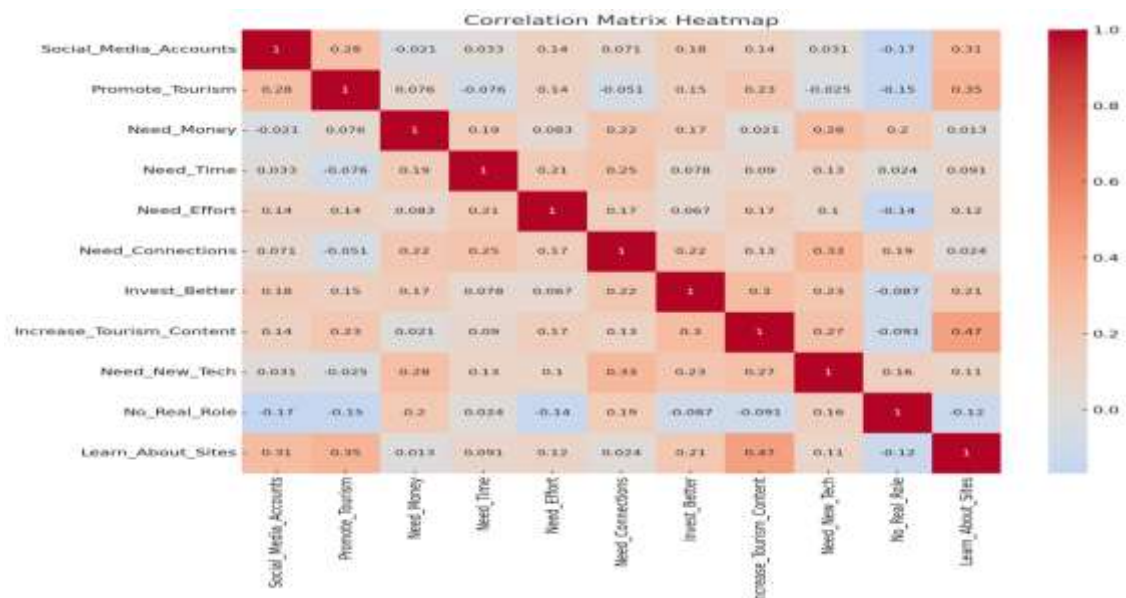


Figure 15. Correlation Matrix Heatmap.

Source: Developed by researcher.

The correlation matrix heatmap (Figure 15) visually represents the relationships among key variables in the study, emphasizing the strength and direction of correlations. Each cell in the matrix denotes the Pearson correlation coefficient between two variables, ranging from -1 (perfect negative correlation) to 1 (perfect positive correlation). The most significant findings are detailed below.

A strong positive correlation is observed between "Increase Tourism Content" and "Learn About Sites" ($r = 0.47$). This indicates that as the volume of tourism-related content on digital geographic journalism accounts increases, students' ability to learn about tourist sites in the Aseer region improves significantly. This finding aligns with the study's objective of assessing the educational value of these platforms in tourism promotion.

Additionally, a positive correlation exists between "Social Media Accounts" and "Promote Tourism" ($r = 0.28$), reinforcing the notion that recognizing social media as digital geographic journalism tools correlates with perceiving their effectiveness in promoting tourism. Similarly, a moderate positive relationship is evident between "Learn About Sites" and "Social Media Accounts" ($r = 0.31$), indicating that social media engagement enhances students' knowledge of tourist sites.

Interestingly, the matrix reveals negligible or weak correlations for some variables. For example, "Need Money" shows minimal correlation with "Promote Tourism" ($r = 0.076$), suggesting that financial resources, while perceived as important, do not directly correlate with students' views on tourism promotion. Similarly, "Need Connections" displays weak associations with most variables, implying that networking is not a primary factor in determining the perceived effectiveness of digital geographic journalism accounts.

Negative correlations are also observed. For instance, "No Real Role" negatively correlates with "Social Media Accounts" ($r = -0.17$) and "Promote Tourism" ($r = -0.15$). These findings highlight that participants who strongly perceive these accounts as valuable tools are unlikely to dismiss their role in tourism promotion.

Pair Plots for Highly Correlated Questions

Pair plots for highly correlated questions further illustrate these relationships. For instance, the pair plot between "Increase Tourism Content" and "Learn about Sites" shows a clear positive trend, indicating that as students perceive an increase in tourism content, they also feel that they learn more about tourist sites (**Figure 16**). Similarly, the pair plot between "Need New Tech" and "Need Connections" underscores the complementary nature of technology and networking in enhancing the effectiveness of digital geographic journalism (**Figure 17**).

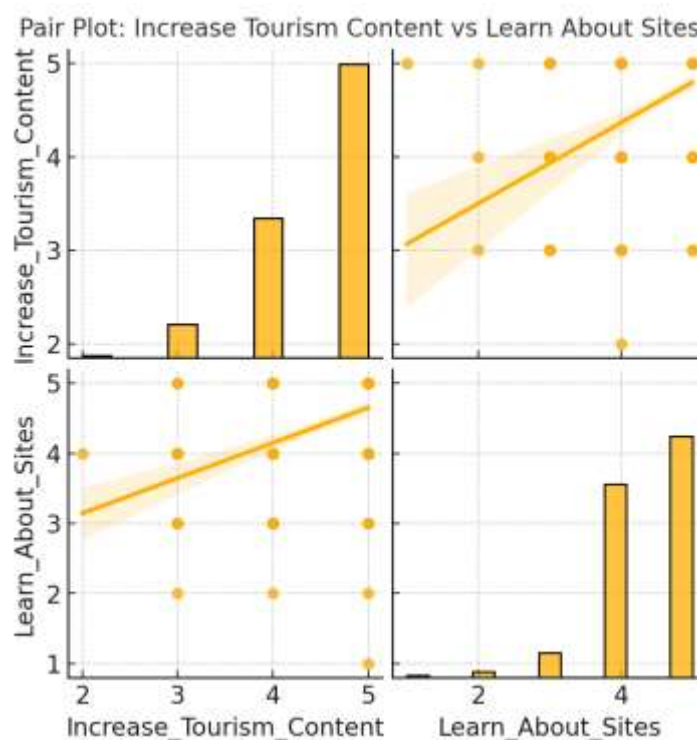


Figure 16. Pair Plot of Increase Tourism Content vs Learn About Sites.

Source: Developed by researcher.

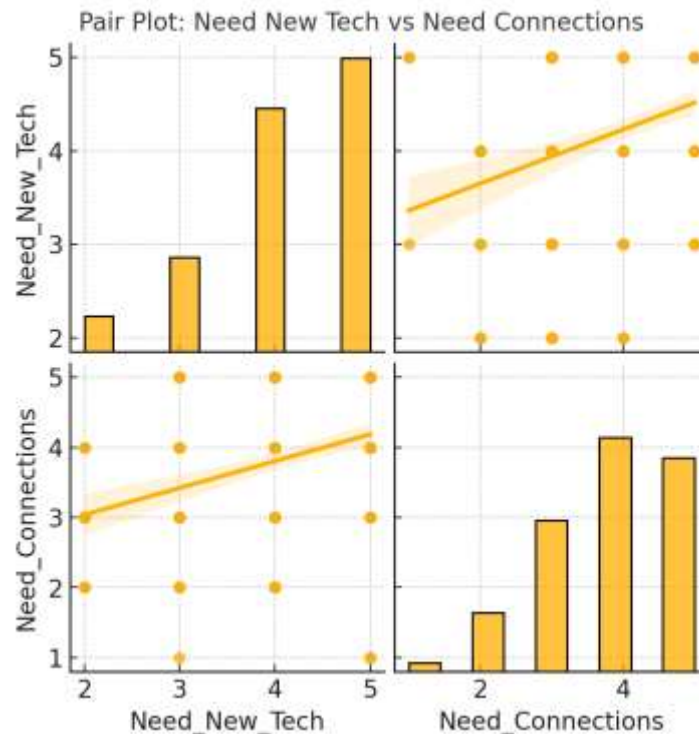


Figure 17. Pair Plot of Need New Tech vs Need Connections.

Source: Developed by researcher.

The findings of this study highlight the significant role that digital geographic journalism, particularly through social media accounts, plays in promoting tourism in the Aseer region. Students overwhelmingly recognized the importance of these accounts in increasing tourism content and enhancing their knowledge about tourist sites.

The high levels of agreement on the need for investment, effort, time, and modern technologies suggest that students believe in the potential of these accounts but also recognize the challenges in making them successful. The varied responses regarding the need for money and connections highlight potential areas for further exploration and support.

The correlation analysis and pair plots provided deeper insights into the interrelationships between different aspects of digital geographic journalism. The strong positive correlations indicate that enhancing one aspect, such as content quality, can have a positive ripple effect on other aspects, like learning about tourist sites.

Overall, this study underscores the value of digital geographic journalism in tourism promotion and provides a basis for further research and investment in this area. The positive attitudes of undergraduate Students towards these accounts reflect their potential as effective tools for tourism marketing and education in the Aseer region. Future studies could explore specific strategies to overcome the identified challenges and maximize the impact of digital geographic journalism on tourism.

To provide a clearer understanding of the main findings, the key correlations from the analysis are summarized in Table 4.

Table 4.

Presents the strongest positive correlations identified in the study, emphasizing relationships between variables.

Variable 1	Variable 2	Correlation Coefficient (r)	Interpretation
Increase Tourism Content	Learn About Sites	0.47	Enhanced content increases students' knowledge of tourist sites.
Social Media Accounts	Learn About Sites	0.31	Engagement with social media helps students learn about tourism.
Social Media Accounts	Promote Tourism	0.28	Social media accounts are seen as effective for tourism promotion.
Need Modern Technology	Increase Tourism Content	0.33	Modern technologies can improve the quality of tourism-related content.

These results are further supported by the correlation matrix heatmap (Figure 2), which provides a visual summary of relationships among all variables. For example, the strong correlation between "Increase Tourism Content" and "Learn About Sites" demonstrates the dual role of digital geographic journalism as both a promotional and educational tool.

The findings align with prior research on the role of digital platforms in tourism promotion. For instance, Gretzel (2019) emphasized the transformative potential of social media in enhancing tourism visibility and engagement, a conclusion mirrored in the current study. Similarly, Pavlik (2008) highlighted the educational value of digital geographic journalism, consistent with participants' recognition of its role in spreading knowledge about tourist sites.

However, this study also revealed unique nuances. While previous studies have often focused on the financial and technological barriers to effective digital journalism (Franklin, 2013; Deuze, 2008), the current research suggests that undergraduate students perceive other factors, such as sustained effort and content quality, as equally critical. This discrepancy underscores the importance of understanding the perspectives of younger, tech-savvy audiences who are active consumers and contributors to digital geographic journalism.

Recommendations

Based on the findings, several practical recommendations can be made to enhance the role of digital geographic journalism in tourism promotion:

1. **Investment in Content Quality:** Stakeholders should prioritize the production of high-quality, visually appealing content to engage audiences and promote local tourism effectively.
2. **Adoption of Modern Technologies:** Incorporating advanced technologies, such as interactive maps and augmented reality, can significantly enhance the user experience and increase the appeal of digital platforms.
3. **Targeted Educational Campaigns:** Digital geographic journalism accounts can be utilized to create campaigns aimed at educating both locals and potential tourists about the cultural and natural attractions of the Aseer region.
4. **Collaboration and Partnerships:** Universities, tourism boards, and private enterprises can collaborate to provide financial and technical support for digital geographic journalism initiatives.

Future Research

Future studies could address several aspects not explored in the current research:

- **Longitudinal Studies:** Investigating the long-term impact of digital geographic journalism on tourism promotion and regional development.
- **Specific Campaign Analysis:** Assessing the effectiveness of particular social media campaigns or digital initiatives in promoting tourism in the Aseer region.

- **Cross-Demographic Comparisons:** Exploring perceptions of digital geographic journalism across different demographic groups, such as tourists, professionals, and local communities.
- **Technological Innovations:** Evaluating the impact of emerging technologies, such as virtual reality and artificial intelligence, on digital geographic journalism in tourism.

Conclusion

The results indicate a strong positive perception among undergraduate Students regarding the role of digital geographic journalism in promoting tourism in the Aseer region. The insights gained from this study can guide policymakers, educators, and tourism promoters in leveraging digital geographic journalism to enhance tourism efforts. By addressing the highlighted needs for investment, effort, time, and modern technologies, and by building robust connections and networks, the potential of digital geographic journalism can be fully realized to benefit the tourism sector in the Aseer region. To maximize the potential of digital geographic journalism, the following recommendations are proposed:

- **Investment in Technology:** Ensure access to modern technologies and tools for creating high-quality digital geographic journalism content.
- **Focus on Content Quality:** Emphasize engaging storytelling and culturally sensitive content to attract and retain tourists.
- **Broaden Audience Engagement:** Expand the study to include other demographics and gather more comprehensive data on various audience segments.
- **Collaborate with Influencers:** Leverage the influence of undergraduate Students and social media influencers to amplify tourism promotion efforts.

Declaration of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The authors are committed to offering comprehensive information and methodology details upon request to support reproducibility and encourage additional scientific investigation. For any inquiries or clarifications about the study's data, please reach out to the corresponding author.

Author contributions

The authors contributed equally in conducting this work.

Ethics approval

The submitted work is original and has not been previously published, either in whole or in part, in any form or language.

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From interaction to expression: the influence of padlet on Saudi EFL learners' speaking competence

تعامل سے اظہار تک: پیڈلٹ کا اثر سعودی ای ایف ایل سیکھنے والوں کی بولنے کی صلاحیت پر

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Abstract

خلاصہ

Digital technology is increasingly integrated into education, with tools like Padlet enhancing learning by supplementing traditional methods. Padlet, a valuable platform in EFL classrooms, supports various teaching goals. This study examines Padlet's impact on the speaking skills of Saudi EFL learners, focusing on accuracy, vocabulary, and fluency. Fifty Saudi high school graduates were split into experimental and control groups. Over twelve weeks, the experimental group practiced speaking with Padlet, while the control group followed traditional methods. Using IELTS speaking criteria, assessments showed the Padlet group significantly outperformed the control group. These findings highlight Padlet's potential as a transformative tool for developing speaking proficiency in EFL learners, emphasizing its value for increasing engagement and improving outcomes in language education.

ڈیجیٹل ٹیکنالوجی کو تعلیم میں تیزی سے مربوط کیا جا رہا ہے ، جس میں پیڈلٹ جیسے ٹولز روایتی طریقوں کی تکمیل کر کے سیکھنے میں اضافہ کر رہے ہیں۔ پیڈلٹ ، ای ایف ایل کلاس رومز میں ایک قیمتی پلیٹ فارم ، مختلف تدریسی اہداف کی حمایت کرتا ہے۔ یہ مطالعہ سعودی ای ایف ایل سیکھنے والوں کی بولنے کی مہارتوں پر پیڈلٹ کے اثرات کا جائزہ لیتا ہے ، جس میں درستگی ، الفاظ اور روانی پر توجہ دی جاتی ہے۔ پچاس سعودی ہائی اسکول گریجویٹس کو تجرباتی اور کنٹرول گروپوں میں تقسیم کیا گیا۔ بارہ ہفتوں کے دوران ، تجرباتی گروپ نے پیڈلٹ کے ساتھ بات کرنے کی مشق کی ، جبکہ کنٹرول گروپ نے روایتی طریقوں پر عمل کیا۔ آئی ای ایل ٹی ایس بولنے کے معیار کا استعمال کرتے ہوئے ، جائزوں سے پتہ چلتا ہے کہ پیڈلٹ گروپ نے کنٹرول گروپ سے نمایاں طور پر بہتر کارکردگی کا مظاہرہ کیا۔ یہ نتائج ای ایف ایل سیکھنے والوں میں بولنے کی مہارت کو فروغ دینے کے لئے ایک تبدیلی کے آلے کے طور پر پیڈلٹ کی صلاحیت کو اجاگر کرتے ہیں ، زبان کی تعلیم میں مشغولیت بڑھانے اور نتائج کو بہتر بنانے کے لئے اس کی قدر پر زور دیتے ہیں۔

کلیدی الفاظ: تکنیکی اوزار، پیڈلٹ، سعودی ای ایف ایل طلباء، آئی ای ایل ٹی ایس، سیکھنا، بولنا۔

Keywords: Technological tools, Padlet, Saudi EFL students, IELTS, learning, speaking.

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Introduction

In the contemporary globalized landscape, English has emerged as a dominant lingua franca, reflecting its critical role in facilitating international communication across various sectors. The extensive diaspora of English speakers and its elevation to the status of a global language is propelled by several factors, including the economic and political ascendancy of the United States and the remarkable advancements in communication technologies. Llorca (2004) highlights English as the prevailing language worldwide, a sentiment echoed by Kirkpatrick (2011), who asserts its role as a global lingua franca. Furthermore, globalization and rapid economic development have heightened the demand for effective communication in English (Zahara et al., 2020), accentuating the necessity for English proficiency in both personal and professional realms.

In the context of English as a Foreign Language (EFL) and English as a Second Language (ESL) education, developing speaking proficiency among learners poses a persistent challenge. Speaking is often regarded as one of the most complex skills for language learners, who may struggle to articulate thoughts in real-time situations. The difficulties faced by novice EFL learners can be attributed to various factors, including the need to master grammatical structures, vocabulary, and pronunciation, as well as the ability to formulate context-appropriate responses (Rao, 2019; Saleem et al., 2021). Aziz et al. (2018) argue that many EFL learners lack opportunities for meaningful communication in English, resulting in limited vocabulary and speaking competence.

The role of technology in second language acquisition has become increasingly pivotal. Computer-Assisted Language Learning (CALL) is recognized as a vital tool for enhancing language instruction, providing equitable access to learning opportunities for diverse learners (Charalabopoulou, 2010; Mushtaq et al., 2021). CALL facilitates innovative approaches to language education, catering to learners who face barriers due to mobility, financial constraints, or limited local resources.

Recent advancements in educational technologies and the integration of Web 2.0 tools have further transformed language learning environments. Haris et al. (2017) assert that the incorporation of technological devices and applications into language instruction fosters increased engagement and motivation among students. One such promising tool is Padlet, a Web 2.0 platform that supports collaborative learning and information sharing (Aziz et al., 2020). Fuchs (2014) describes Padlet as a versatile multimedia wall that encourages real-time participation and feedback, enhancing the interactive learning experience.

Empirical studies have demonstrated the effectiveness of Padlet in improving EFL learners' speaking skills. Research by Ali et al. (2024) indicates that the use of Padlet in language classrooms fosters an engaging learning atmosphere, vital for maintaining student interest and participation. Further evidence from studies (e.g., Maqsood et al., 2019; Jong & Tan, 2021; Nagamani, 2016; Saleem et al., 2021; Saleem & Anjum, 2018; Taufikurohman, 2018) confirms Padlet's role in promoting active engagement, collaboration, and immediate feedback among learners, thereby supporting the development of speaking skills (Aziz et al., 2020; Putri & Umam, 2018).

Despite the positive findings surrounding Padlet's impact on various language skills, there remains a notable gap in the literature regarding its specific influence on the speaking proficiency of Saudi EFL learners. Prior studies have predominantly focused on writing skills (Ferawati et al., 2022) or explored its effects on vocabulary acquisition and grammar (Haris et al., 2017). Although some research has addressed Padlet's impact on speaking and other communication skills (Haroon et al., 2023), a targeted investigation within the Saudi educational context is warranted.

Thus, this study aims to explore the efficacy of Padlet in enhancing the speaking skills of Saudi EFL learners, addressing a critical gap in the existing literature and providing insights into the pedagogical challenges and practical implications of integrating this technology into language instruction. The research question guiding this study is:

RQ 1: To what extent does Padlet improve the speaking skills of Saudi EFL learners?

Based on this research question, the following hypotheses have been formulated:

- **H1:** There is no statistically significant difference between the mean scores of the experimental group and control group in the pre-test on speaking skills.
- **H2:** There is no statistically significant difference between the mean scores of the control group in the pre-test and post-test on speaking skills.
- **H3:** There is a statistically significant difference between the mean scores of the experimental group in the pre-test and post-test on speaking skills.

Literature Review

With the emergence of English as a key global language, the emphasis on English language proficiency has intensified, particularly in English as a Foreign Language (EFL) contexts. Despite considerable efforts, however, the development of speaking skills among EFL learners remains a significant concern (Safeer et al., 2024). Existing literature highlights challenges such as limited opportunities for authentic practice, a lack of speaking-focused activities, and traditional pedagogical approaches that often prioritize reading and writing over oral communication (Batoool & Saleem, 2023; Dogar et al., 2024). The integration of technology in language education has shown promise in addressing shortcomings in traditional methodologies. Virtual platforms provide opportunities for interactive and engaging language practice, fostering a communicative environment that mirrors real-world situations. Rahman (2015) notes that technology creates a learner-centered classroom atmosphere where students actively participate in activities, take on significant roles, and become independent learners. Additionally, technology offers L2 learners' access to authentic materials and contact with native speakers, exposing them to the target language and culture (Asmat et al., 2024). Numerous studies indicate that technology use in language classrooms enhances learners' motivation (Saleem & Khan, 2024).

However, there are also disadvantages to technology integration in language learning. Asmat et al. (2024) argue that learners often rely excessively on the internet, which can hinder their independent thinking (p. 37). Many L2 learners view technology primarily as a source of entertainment, wasting time on texting, watching videos, and browsing the web instead of utilizing it as a learning tool. Maqsood et al. (2018) supports this argument, noting that pervasive technology can impede the cognitive development of L2 learners. Nevertheless, the benefits of technological tools generally outweigh the drawbacks. One such tool is Padlet, a collaborative online board that enables users to share multimedia content and provides a dynamic space for language exploration (Haroon et al., 2023). Padlet is a free Web 2.0 application that allows users to create virtual walls that function as notice boards or whiteboards to display various files. The creator of a wall controls its layout, content, style, and privacy settings (Khan et al., 2023). They can choose from various wallpapers and arrange postings as desired. The privacy settings enable creators to manage access to their walls, making them public or exclusive. Users can customize links and addresses for their walls, granting permissions for reading, writing, and moderating posts. Once posted, content on a wall cannot be altered unless deleted or the wall is removed (Saleem et al., 2020). Padlet also supports simultaneous contributions from multiple authors, making posts instantly viewable. Padlet has gained popularity in various educational contexts due to its versatility and user-friendly interface. However, its specific application in enhancing speaking skills among Saudi EFL learners remains relatively unexplored. Research in other settings suggests that Padlet's collaborative features, multimedia capabilities, and accessibility contribute to creating an interactive language learning environment. Mahmud (2019) states that Padlet empowers students in their tasks, while Jong and Tan (2021) demonstrated that Padlet motivates students to engage actively in class activities. Collaborative learning has shown positive effects on language acquisition, particularly in speaking skills. By fostering interaction and encouraging peer-to-peer communication, collaborative approaches align with the communicative nature of language learning (Ullah et al., 2023). The literature underscores the potential synergy between collaborative learning strategies and Padlet's functionalities in developing effective spoken language abilities. Ahmad et al. (2022) note that Padlet facilitates collaborative opportunities, benefiting students. Furthermore, the freedom granted during the learning process enhances engagement (Saleem et al., 2018). As a result, students feel more in control of their education and experience a greater sense of autonomy and responsibility.

Nevertheless, several researchers have recently explored the impact of Web 2.0 tools, particularly Padlet, on various aspects of L2 language acquisition across diverse educational contexts. Most studies have primarily concentrated on enhancing writing skills through Padlet, showcasing both strengths and limitations in their methodologies and findings. For instance, Khan et al. (2023) investigated the influence

of Padlet on improving the writing performance of female Saudi EFL students. This study involved 24 fifth-level participants who were assigned to either a control group receiving traditional lecture-based instruction or an experimental group engaged in Padlet writing exercises. The post-treatment assessments indicated that the experimental group significantly outperformed the control group, highlighting Padlet's effectiveness in fostering student engagement. However, the study's limited sample size raises questions about the generalizability of its findings.

Similarly, Rashid et al. (2019) examined the role of Padlet in enhancing the writing performance of 87 EFL learners. Utilizing task analysis, questionnaires, and teacher observations, they found that Padlet not only increased learners' motivation but also reduced anxiety and improved communication between students and teachers. While these results are promising, the reliance on self-reported measures may introduce bias, potentially affecting the validity of the conclusions. Ferawati et al. (2022) further explored Padlet's application for improving Malaysian students' personal letter-writing skills through observational methods and online tests. Their findings indicated positive performance improvements; however, the study lacked a control group, which limits the ability to ascertain the effectiveness of Padlet compared to other methods.

Nguyen and Trang (2023) studied the impact of peer feedback facilitated by Padlet on Vietnamese EFL students' email writing abilities. This study, which involved both a control group of non-English majors and an experimental group, found that peer feedback significantly enhanced email writing skills. The inclusion of semi-structured interviews added depth to the findings, yet the mixed participant levels may complicate comparisons across different contexts. Research by Alabbad and Saad Bin Huwamel (2020) on Padlet's effectiveness for vocabulary learning among Saudi female EFL learners demonstrated that seven Padlet-based training sessions led to improved lexical understanding. While the results are encouraging, the study does not address potential long-term retention of vocabulary learned through Padlet.

Ali (2021) assessed the impact of Padlet on beginner English grammar learning and reported significant performance gains among Malaysian university students following pre- and post-testing. Their findings were bolstered by favorable survey responses regarding Padlet's utility. Nevertheless, the lack of qualitative data limits understanding of the students' experiences with the tool. Alastal et al. (2022) explored Padlet's role in enhancing English speaking and deductive thinking skills among 30 students in the Gaza Strip. Utilizing SPSS for detailed analysis, the study underscored the need for integrating emerging technologies in speaking instruction to bolster 21st-century skills. However, the small sample size and specific context may limit the applicability of the findings to broader populations.

Ali (2021) focused on the effects of Padlet on the presentation skills of Pakistani university-level English language learners. Their quantitative one-shot experimental design revealed significant improvements in presentation skills, grades, and motivation. While the results are noteworthy, the study lacks a longitudinal perspective to assess sustained impacts over time. Mahmud et al. (2023) investigated the influence of Web 2.0 resources like Padlet on Pakistani L2 learners' teamwork and communication abilities, finding significant improvements and positive attitudes toward Padlet in group education settings. The comprehensive approach adds value, yet further research is necessary to explore individual versus group outcomes. Saleem et al. (2022) assessed 21st-century learning skills (creativity, critical thinking, collaboration, and communication) through Padlet, concluding that it promotes creativity and collaborative learning. However, the broad focus on various skills may dilute specific insights into Padlet's impact on language learning (Maqsood et al., 2019).

Nevertheless, the existing literature predominantly emphasizes writing skills (e.g., Ferawati et al., 2022; Nguyen & Trang, 2023) and other language aspects such as vocabulary and grammar (Alabbad & Saad Bin Huwamel, 2020; Haris et al., 2017). Consequently, there is a pressing need for empirical research specifically examining the effect of Padlet on the speaking skills of Saudi EFL learners. This study aims to fill this gap by investigating how Padlet influences speaking competence, thereby illuminating the pedagogical issues and practical implications of integrating this technology into language instruction.

Research Methods

A quantitative research design is utilized for exploring the impact of a variable on a specific population. In line with this perspective, the researchers employed a quantitative research design for the current study, utilizing a pre-test and post-test experimental design to gather quantitative data.

Participants

The participants in this study comprised 50 Saudi EFL learners enrolled at the Aramco Center in Saudi Arabia. All students were male, aged between 18 and 24 years, and had completed their high school education. They had studied English as a major subject until the intermediate level, ensuring a foundational proficiency in the language. The selection of subjects was conducted using random sampling techniques to ensure representativeness and minimize bias. Following the selection process, participants were divided into an experimental group ($n = 25$) and a control group ($n = 25$) to facilitate the intervention effectively. In addition to the learners, two instructors from the same institute participated in the study: one served as the primary instructor, teaching both the experimental and control groups, while the other acted as an examiner responsible for evaluating the students' responses in the pre- and post-tests.

Instruments

The research tools utilized in this study included speaking prompts administered to the participants during both the pre-test and post-test phases. The responses gathered from these assessments were evaluated by the examiner using a specific rubric adapted from the Cambridge IELTS rubric, which is known for its robust validity and reliability in assessing speaking performance. The rubric ensures that the evaluation is objective and consistent, allowing for accurate measurement of improvements in speaking skills. Initial and final tests were conducted to determine the effectiveness of the independent variable, which in this case was Padlet. This technological tool serves a variety of functions in language learning and has been recognized for its effectiveness by numerous researchers, educators, and students alike. For the purposes of this investigation at the Aramco Center, Padlet was employed as the primary assessment tool. For more details on the rubric used in this study, please refer to the Cambridge IELTS speaking assessment rubric, which can be accessed here.

Procedure

To initiate the research procedure, the researchers obtained permission from relevant stakeholders, including the head of the institute, the examiner, the instructor, and the participants involved in the study. Conducting the research themselves allowed the researchers to minimize discrepancies and enhance their understanding of the institutional systems. This direct involvement enabled them to address potential classroom management issues, as well as concerns related to Padlet and assessment procedures, thus mitigating any biases that could influence the research process.

The study began with a pre-test, which consisted of ten speaking prompts, each requiring students to respond for one minute. All participants completed the pre-test, and their performances were evaluated using a rubric-based assessment. This evaluation facilitated the equitable distribution of participants into two heterogeneous groups, ensuring a mix of abilities within each cluster.

Following the pre-test, the intervention phase commenced, lasting one month. During this period, both groups engaged in daily classroom practices focused on improving speaking skills, but they did so using different approaches. The control group practiced conventional speaking tasks, where topics were presented on the board for students to discuss. In contrast, the experimental group utilized Padlet for their speaking activities, which incorporated various methods to enhance their speaking skills through topic randomization and extemporaneous speaking. This group benefited from opportunities to collaborate with classmates and teachers, allowing for practice both within and outside formal classroom settings, as well as opportunities for independent speaking tasks. After a twelve-week intervention period, a post-test was administered to assess the speaking performance of both groups. The outcomes of the pre-tests and post-tests were subsequently analyzed and compared, and the findings will be presented in the following section.

Variables of the Study

In this study, the independent variable was Padlet, while the dependent variable was the enhancement of students' speaking skills. Several significant confounding variables were identified, and the researchers took measures to minimize their potential impact, which included:

- **Instructor Mood:** To mitigate the effects of the instructor's mood on student performance, assessments were scheduled for the morning when the instructor was typically more relaxed and prepared. Both

pre-test and post-test evaluations were conducted during this time to ensure a consistent assessment environment.

- **Economic and Social Conditions:** The participants were selected from a similar socio-economic background, ensuring that their financial conditions did not vary significantly. This homogeneity was crucial in minimizing any socio-economic bias that could influence learning outcomes.
- **Intelligence:** Participants' intelligence levels were indirectly assessed through their prior academic performance in English. Only those students who scored between 70 and 75 in their high school English examinations were included in the study, ensuring a baseline level of proficiency among all participants.

Additionally, several moderating variables were considered, including:

- **Instructor:** The specific teaching style and experience of the instructor could influence student engagement and learning outcomes.
- **Course and Syllabus:** The content and structure of the course, including the syllabus followed, were standardized to maintain consistency across groups.
- **Duration of the Intervention:** The length of time allocated for the Padlet intervention was controlled to allow for adequate exposure without overwhelming the students.
- **Class Duration:** The overall time allotted for each class session was standardized to ensure that all participants received equal instructional time.
- **Gender and Age:** These demographic factors were monitored to account for any potential differences in learning styles or engagement levels that may arise from gender or age disparities.

Data Analysis

A quantitative analysis was conducted on the data collected from the pre- and post-tests administered to the participants. To assess the impact of the intervention on student performance, the mean scores and standard deviations of the pre- and post-test grades were compared using a paired sample t-test. This statistical method allows for a robust evaluation of the differences in performance before and after the implementation of the intervention.

Results

The primary aim of the current study was to assess the effectiveness of Padlet in enhancing the English-speaking abilities of Saudi EFL learners. To evaluate this hypothesis, participants were randomly assigned to either an experimental group or a control group. Data collected from pre-, and post-tests were analyzed using paired sample t-tests through SPSS software. Preliminary analyses indicated that there was no significant statistical difference between the mean scores of the experimental group and the control group in the pre-test for speaking skills. This hypothesis was tested by summarizing and describing the data, including the computation of means and standard deviations for both groups as presented in the table below:

Table 1.
Experimental and Control Groups' Pre-test Results: Independent Sample T-Testing Method

Variable	EXP(G) (n = 25)		CNTR(G) (n = 25)				95% CI		CH
	MN	SV	MN	SV	F	t (118)	P	LLT	ULT
PRT	8.25	0.77	8.19	0.76	.375	-0.63	.004	-0.3	-0.20

Note: EXP-Experimental group, CNT-Control group, MN-Mean, SV-Standard deviation, V-Variable, FV-Variance of frequency, CH-Cohen, CIN-Confidence interval, LLT-Lower limit, LLT-Lower limit, ULT-Upper limit, PRT-Pre-test, POT-Post-test

Table 1 presents the values indicating a variance of 0.375, demonstrating that the assumption of homogeneity was met across both cluster groups. This finding suggests that the initial test variance was consistent within both the experimental and control groups. The calculated t-value of -0.63 further supports the observation that there were only minor differences in the performance between the two groups. Specifically, the mean score (M) for the control group was 8.19, while the experimental group had a mean score of 8.25. Additionally, the effect size, as measured by Cohen's d, was found to be 0.41, indicating a

medium effect size. This suggests that there is a negligible statistical difference between the mean scores of the experimental and control groups in the pre-test assessment of speaking skills.

The hypothesis was evaluated by calculating and summarizing the means and standard deviations for the control group in both the pre-test and post-test assessments of speaking skills, as illustrated in the table 2 below:

Table 2.

Control Group's Pre- and Post Tests Results: Paired Sample T-test Method

V	EXP (G) (n = 25)	CNT (G) (n = 25)				95% CI	CH
	MN SV	M	SV F	t (118)	P	LLT ULT	D
POT	15.97 1.76	10.90	0.11 .234	-30.11	.000	-4.54 -4.23	3.50

The analysis of the initial and final test scores in the control group revealed a significant variation ($t = -23.12$, $p < .001$). This finding is further supported by the mean scores, which increased from 8.19 in the initial test to 10.90 in the post-test. Additionally, Cohen's d value of 3.21 suggests a medium effect size, indicating a notable impact of the intervention.

Table 3.

Complete Statistics of the Items

	Scale Means if Item Deleted	Variance of Scale if Item Deleted	Corrected Item-Total Correlation	Multiple Correlation Squared	Cronbach's Alpha if Item Deleted
PRT	10.90	0.244	.514	.521	.
POT	8.19	0.974	.514	.521	.

The scale analysis indicates that the mean score of the pre-test ($M1 = 10.90$) is significantly higher than that of the post-test ($M2 = 8.19$). The variance for the pre-test cluster, denoted as $v1=0.244v_1 = 0.244v1 = 0.244$, is notably lower than that of the post-test group, which has a variance of $v2=0.974v_2 = 0.974v2 = 0.974$. The corrected item correlation stands at $r=0.514r = 0.514r=0.514$, suggesting a strong and statistically significant relationship among the scores. Additionally, the squared correlation coefficient of $r^2=0.521r^2 = 0.521r^2=0.521$ reflects the degree of proportionality between the scores and other items on the scale.

Table 4.

Statistical Scale

MN	V	SV	Number of Items
Mc = 19.09	V = 3.987	SV = 1.898	2

The combined mean score for both the initial and final tests (MN) was 19.09, with a variance of 3.987 and a standard deviation of 1.898. These statistics indicate that there is minimal statistical difference between the mean scores of the control group in the pre-test and post-test assessments of speaking skills.

"There is statistically significant difference between the mean scores of experimental groups in the pre- and post-test on speaking skills."

To test this hypothesis, the data for the experimental group were analyzed by calculating the mean and standard deviation for both the pre-test and post-test on speaking skills, as illustrated in the table below:

Table 5.
Experimental Group's Pre- and Post Tests Results: Paired Sample T-test Method

V	PRT		POT				95% CI		
	MN	SV	MN	SV	t (149)	P	LLT	ULT	CH D
EXP (G)	8.25	0.77	15.97	1.76	-54.14	.000	-6.78	-6.875	5.21

The results of the experiment revealed a significant variation in the scores between the initial and final tests for the experimental group, with a t-value of -54.14 ($p < .001$). This significant difference is further supported by the mean scores, which increased from 8.25 in the initial test to 15.97 in the post-test. Additionally, Cohen's d value of 3.21 indicates a large effect size, demonstrating a substantial impact of the intervention on speaking skills.

Table 6.
Complete Statistics of the Items

	Mean Scale if Item Deleted	Variance Scale if Item Deleted	Item Correlation Corrected	Multiple Correlation Squared	Cronbach's Alpha if Item Deleted
Pre-Test (x1)	15.97	.893	.691	.420	.
Post-Test (x2)	8.25	0.865	.691	.420	.

The analysis of the scale indicates that the mean score of the pre-test ($M1 = 15.97$) is significantly higher than that of the post-test ($M2 = 8.25$). Additionally, the variance for the pre-test group ($v1 = 0.893$) is lower compared to the post-test group ($v2 = 0.865$), suggesting greater consistency among the initial test scores. The corrected item correlation is .691, indicating a strong and statistically significant relationship among the scores. Furthermore, the squared correlation value of .420 reflects a substantial degree of proportionality between the scores and the other items on the scale.

Table 7.
Statistical Scale

MN	V	SV	Number of Items
Mc = 24.22	V = 4.892	Sc = 1.925	2

The combined mean score for both the initial and final tests on the mean scale (MN) was 24.22, with a variance of 4.892 and a standard deviation of 1.925. These findings indicate a statistically significant difference between the mean scores of the control group in the pre-test and post-test assessments of speaking skills.

Discussion

The present study investigated the effectiveness of Padlet in enhancing the speaking skills of Saudi EFL learners. The findings demonstrated a statistically significant improvement in the speaking performance of the experimental group, who used Padlet, compared to the control group. These results align with recent research highlighting the potential of technology-enhanced language learning tools in fostering interactive and collaborative learning environments. Studies have consistently shown that Web 2.0 tools like Padlet not only promote learner engagement but also enhance critical language skills, particularly in speaking (Azam, 2023; Hamid & Shafi, 2023; Khalid et al., 2023; Sagheer et al., 2023). The use of Padlet as a digital platform facilitates active participation and provides opportunities for learners to practice speaking in a supportive and interactive setting, further corroborating its effectiveness in EFL contexts.

Our findings reveal a substantial improvement in the experimental group's post-test scores compared to their pre-test results, highlighting the effectiveness of Padlet as a learning tool for enhancing speaking skills. This outcome contrasts with prior research, such as Nguyen and Trang (2023), which primarily explored

Padlet's application in developing writing skills and reported mixed outcomes regarding its effectiveness for written tasks. While their findings emphasized notable improvements in writing performance, our study broadens the scope of inquiry by examining its impact on speaking skills. By doing so, it underscores Padlet's adaptability across different language competencies and learning contexts, contributing to a more nuanced understanding of its pedagogical potential (Ghani et al., 2022; Ockert, 2018).

The improvement in speaking skills among participants using Padlet can be linked to its ability to foster a collaborative and interactive learning environment. Padlet's features, such as real-time feedback and peer interaction, align with current research emphasizing the importance of interactive digital platforms for enhancing L2 speaking proficiency. For instance, Mahmud et al. (2023) found that AI-mediated interactive activities, including tools like Padlet, not only enhanced speaking skills but also improved learners' willingness to communicate by providing personalized feedback and a low-pressure environment. Furthermore, Padlet supports meaningful interactions and promotes anxiety reduction through its user-friendly design, similar to findings by Saleem et al. (2018) on GenAI-enabled speaking tools. These studies highlight that such platforms allow learners to engage in authentic, task-based activities, fostering language acquisition through active collaboration and immediate feedback. By leveraging these features, Padlet contributes significantly to creating a supportive and engaging ecosystem for L2 learners, promoting the development of fluency, vocabulary, and accuracy in speaking skills. This underscores its role as a critical component in modern language education strategies (Aslam & Nasir, 2023; Mushtaq, 2023; Tahir, 2023; Furnaz, 2023).

The significant effect size observed in the experimental group highlights that Padlet not only enhanced speaking skills but also positively influenced learners' motivation and confidence in using English. This aligns with recent findings by Ferawati et al. (2022), who emphasized that Web 2.0 tools like Padlet play a critical role in boosting student motivation and alleviating anxiety in language learning environments. Furthermore, recent studies, such as those by Ahmad Faudzi et al. (2023) and Wang and Kabilan (2024), have emphasized the transformative potential of digital platforms in fostering learner engagement and reducing psychological barriers in ESL and EFL contexts. Consistent with these insights, the present study confirms that the integration of Padlet contributed to a more dynamic and supportive learning experience for Saudi EFL learners, thereby enhancing their speaking competence and overall confidence.

In contrast, the control group exhibited only marginal improvements, suggesting that traditional instructional methods may have limited efficacy in developing speaking skills. These findings highlight the critical need to incorporate innovative technological tools into language teaching to optimize learner engagement and outcomes. Similar results have been reported in recent studies, including Alabbad and Saad Bin Huwamel (2020), who found that traditional approaches often fail to sufficiently engage learners when compared to technology-enhanced methods. This is further supported by Gao and Yang (2023), who demonstrated that integrating digital platforms into language instruction significantly enhances speaking proficiency by fostering interactive and learner-centered practices.

Building on prior research, this study stresses the efficacy of Padlet as an interactive platform for enhancing the speaking skills of Saudi EFL learners (Sadry, 2022; Syahrizal & Rahayu, 2020). The substantial improvements demonstrated by the experimental group provide compelling evidence that technology can revolutionize language education by fostering increased engagement, intrinsic motivation, and communicative proficiency. These findings align with recent advancements in digital pedagogical tools, emphasizing their potential to create dynamic, learner-centered environments conducive to meaningful language acquisition.

Limitations of the Study

This study provides valuable insights into the use of Padlet for enhancing speaking skills among Saudi EFL learners; however, several limitations warrant consideration. The exclusive focus on male learners limits the generalizability of the findings to female or mixed-gender groups, suggesting the need for future research to explore gender-based variations in learning outcomes. Additionally, the relatively small sample size of 50 participants may not adequately capture the diversity of Saudi EFL learners, highlighting the importance of larger sample sizes in future studies to enhance the vigour of findings. The 12-week intervention period, while effective in capturing short-term impacts, may not be sufficient to assess long-term improvements, emphasizing the need for longitudinal studies to evaluate sustained benefits. Furthermore, the study's context—restricted to a single institution (Aramco Center) with participants from

similar socio-economic backgrounds—may limit the applicability of the results to other regions or educational settings. While the study focused on speaking skills, it did not address Padlet's potential impact on other language competencies, such as listening or reading, emphasizing the need for a more comprehensive analysis to provide a holistic view of its effectiveness. The assumption that all participants had equal access to and familiarity with technology may not reflect realities in resource-limited settings, where variations in technological literacy could influence outcomes. Finally, despite efforts to minimize instructor bias, the potential for unconscious influence cannot be entirely excluded, suggesting that further studies should account for this variable to ensure unbiased results.

Conclusion

The present study aimed to evaluate the effectiveness of Padlet as an instructional tool in enhancing the English-speaking abilities of Saudi EFL learners. The findings indicate a significant improvement in the speaking skills of participants who used Padlet compared to those in the control group, suggesting that integrating technology into language learning can lead to substantial advancements in learner performance, particularly in speaking tasks, which are often challenging for EFL learners. The implications of this study extend beyond the immediate context of the Aramco Center, highlighting the potential of Web 2.0 tools like Padlet in various educational settings. Educators and curriculum developers can benefit from these insights by incorporating technology into their teaching methodologies, ultimately fostering a more engaging and effective learning environment. Additionally, the study underscores the importance of using interactive platforms that promote collaboration and feedback among students, essential components in language acquisition. Based on the findings and their implications, several suggestions for future research can be made. First, future studies could explore the impact of Padlet on diverse learner populations, including females, younger learners, or students with varying levels of English proficiency, to ascertain its effectiveness across different contexts and demographics. Second, conducting longitudinal studies could provide deeper insights into the long-term effects of using Padlet on language skills development. Such research could track the progress of learners over an extended period, allowing for a more comprehensive understanding of sustained learning outcomes. Third, researchers should consider comparative studies that evaluate Padlet against other technological tools or teaching methods to determine the relative effectiveness of various interventions in improving speaking skills and other language competencies. By addressing these areas, future research can further contribute to the body of knowledge surrounding technology-enhanced language learning and provide valuable guidance for educators in effectively utilizing these tools to support student success.

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Challenges in applying international humanitarian law in contemporary armed conflicts: the case of Russia's war against Ukraine

Проблеми застосування міжнародного гуманітарного права в сучасних збройних конфліктах: приклад війни росії проти України

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Abstract

The aim of the article is to study the problems of applying international humanitarian law under the conditions of modern armed conflicts using the example of war in Ukraine. Methodology. Common and specific methods were applied during the research: logical, dialectical, analytical, method of critical analysis of scientific literature, legal and dogmatic, system and structural, statistical, normative and dogmatic, legal modelling approach. Research Results. It is stated that there is no definition of "hybrid war" in the IHL rules, and this situation does not correspond to the current circumstances. There are gaps in the international legal regulation of the status of civilians, who are guaranteed protection from the

Анотація

Метою статті є дослідження проблем застосування міжнародного гуманітарного права в умовах сучасних збройних конфліктів на прикладі війни в Україні. Методологія. Під час дослідження застосовувалися загальні та спеціальні методи: логічний, діалектичний, аналітичний, метод критичного аналізу наукової літератури, юридично-догматичний, системно-структурний, статистичний, нормативно-догматичний, метод правового моделювання. Результати дослідження. Зазначається, що в нормах МГП немає визначення «гібридної війни», і така ситуація не відповідає нинішнім обставинам. У міжнародно-правовому регулюванні статусу цивільних осіб, яким

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consequences of war. Besides, the violating state does not distinguish between the two legal statuses of persons – civilians and prisoners of war. Summarization and treat both these groups of people as war prisoners. It is concluded that the war in Ukraine has exposed a number of problems of the application of IHL during modern armed conflicts.

Keywords: armed conflict, Geneva Conventions, hybrid war, ICC, IHL, Red Cross, war.

гарантується захист від наслідків війни, є прогалини. Крім того, держава-порушниця не розрізняє два правових статуси – цивільних осіб та військовополонених, і ставиться до обох цих груп як до полонених. Підсумок. Зроблено висновок, що війна в Україні оголила низку проблем застосування МГП під час сучасних збройних конфліктів.

Ключові слова: збройний конфлікт, Женевські конвенції, гібридна війна, МКС, МГП, Червоний Хрест, війна.

Introduction

The 21st century was marked by a number of wars and armed conflicts on the territory of dozens of countries: the war in Afghanistan (2001 – 2021); war in Iraq (2003 – 2011); the invasion of the United States and its allies into Iraq (2003); Lebanon War (2006); Russian-Georgian war (2008); the Russian-Ukrainian war (since 2014); the US invasion of Libya (since 2015), etc.

At the same time, it should be noted that these conflicts are not “ordinary” wars – there are traits of hybrid warfare in all of them. As F. Hoffman, a former officer in the US Marine Corps, in his scholarly research, *Hybrid Warfare and Its Challenges* (2009), correctly notes: “what used to be put on the shelves – this is terrorism and this is conventional war, this is crime and this is guerrilla warfare – today is mixed up... This construct is often referred to as “hybrid warfare”, in which adversaries use different, often unique combination of hybrid threats and tactics aimed at state vulnerabilities... Hybrid warfare is much more than just a conflict between states or other armed groups – this is the use of various hybrid forms of conflict”. Consequently, “hybrid war” is a modern type of external war aggression.

It is worth noting that international humanitarian law is one of the most effective tools possessed by the international community to ensure the safety of people and respect for their honor and dignity during war. Guided by the principle that even war has its limits, IHL seeks to preserve humanity even during armed conflicts.

International humanitarian law, which regulates relations between States to protect victims of war and limits the means and methods of waging war, is designed to curb violence during armed conflicts by establishing rules for their conduct. It applies from the beginning of such armed conflicts and goes beyond the cessation of hostilities until peace is concluded; or, in the case of internal conflicts, until a peaceful resolution of the conflict is reached. The key principle of IHL is the principle of humanity (the most general principle in international humanitarian law), which obliges humane treatment of persons who do not participate or have ceased to participate in an armed conflict.

For Ukraine, as the country struggling against the armed aggression of the Russian Federation, the effectiveness of international legal mechanisms for the protection of civilians and civilian objects and cultural values during the period of armed conflict, as well as their effectiveness in bringing to justice those responsible for the commission of war crimes, is of particular importance.

However, the concept of “hybrid war” is not enshrined in the norms of international humanitarian law, which is a rather large gap in international legislation and causes disagreements regarding the interpretation and application of this concept.

At the same time, the Russian-Ukrainian armed conflict, which has all the signs of hybrid war (there was no official declaration of war; Russia does not in any way recognize itself as a party to the conflict; Russian propaganda actively works not only on the territory of conflict countries, but also in other States; the Russian-Ukrainian war is no less active in cyberspace; Russia’s absolute disregard for international rules of hostilities and current agreements and arrangements in force) vividly emphasized the ineffectiveness of the international mechanism of influence on the aggressor State, which demonstratively ignores the rules of international law, daily violating the terms of international legal treaties obliging to observe the protection of human rights during war. The Geneva Conventions do not operate with the concept of “hybrid

war”, which does not correspond to the current circumstances, because, as it was already stressed, hybrid wars are a type of escalation of conflicts, characteristic of the 21st century.

Therefore, the purpose of the article is to study the inconsistency of IHL norms with modern realities – namely, the absence of the enshrined concept of hybrid war, which is currently taking place in Ukraine, as well as other problems of applying international humanitarian law, indicated in the course of the research (status of civilians, who are guaranteed protection from the consequences of war; status of detained civilians in the occupied territories) using the example of war in Ukraine.

In the framework of the Article, the works by scholars who investigated the essence of the abovementioned terms, as well as their views on the problems of IHL application during the armed conflict in Ukraine, are examined. The methods, used in the course of the research, are substantiated. In the Results and Discussion section, the history of IHL development is studied; the essence of the concepts of “armed conflict”, “international armed conflict”, “non-international armed conflict”, “war” and “hybrid war”, as well as the features of the latter are revealed; the problems related to IHL application during modern conflicts using the example of Ukraine are described. The Conclusion section summarizes the conducted research and indicates some of the challenges which faces the IHL under current conditions.

Literature Review

The issue of armed conflict is fundamental to the application of international humanitarian law, as it is the law of war and armed conflict, and it applies only to them. The category of “armed conflict” in international relations was first used in the 1949 Geneva Conventions (common Article 2 of the Geneva Conventions) (International Committee of the Red Cross, 2016), according to which conflict in which one subject of international law uses armed force against another one is recognized as international armed conflict.

According to Article 1 of Additional Protocol I (ICRC, 1977), international ones are also armed conflicts in which peoples fight against colonial rule and foreign occupation and against racist regimes, exercising their right to self-determination. The Convention relative to the Protection of the Civilian Persons in Time of War (United Nations, 1949a) additionally states that “armed conflict may arise between two or more High Contracting Parties, even if one of them does not recognize a state of war”.

In national legislation, the definition of this concept is enshrined in the Law of Ukraine “On National Security” (Law of Ukraine No. 2469-VIII, 2018), according to which armed conflict is an armed conflict between States (international armed conflict, armed conflict on a State border) or between warring parties within the territory of one State, as a rule, externally supported (internal armed conflict).

According to J. Pictet (1958), any disagreements that arise between states and lead to the intervention of armed forces are armed conflicts, but classical is the wording provided in the decision of the International Criminal Tribunal for the former Yugoslavia in the *Tadic* case (United Nations International Criminal Tribunal for the Former Yugoslavia, 1999), according to which armed conflict occurs whenever States resort to force or when there is a prolonged armed conflict between government forces and organized armed groups or between such groups within the same State.

Concerning the legal threshold for the IHL initiation, it is clearly marked and almost does not cause any disagreements. It lies in the moment of the first use of force between the armed forces of two states (Pictet, 1952), which initiates the application of the detailed provisions of IHL in their entirety. Given that the first firefight may result in wounded soldiers and prisoners and possible damage to civilians and objects, it is quite logical that IHL should be applied from the very beginning of hostilities. In addition, the IHL rules governing armed conflicts always apply in the case of occupation of all or part of the territory of the state, even if this occupation does not meet any armed resistance.

As some foreign experts note, there is no need for any authority to decide whether there is an armed conflict or whether it is necessary to apply IHL (Grignon, 2014). The assessment of belligerents on the situation may indeed have unacceptable consequences for access to humanitarian aid or effective protection of victims of armed conflicts. If parties refuse to recognize that IHL applies, they can use this argument to deny humanitarian agencies access to an area where there are people affected by armed conflict.

Another situation in which the provisions of IHL designed to regulate the armed conflicts are applied, are enshrined in Par. 4, Article 1 of the Additional Protocol I "armed conflicts in which peoples are fighting against colonial rule, foreign occupation and racist regimes to exercise their right to self-determination, provided for in the UN Charter and in the Declaration on the Principles of International Law Relating to Friendly Relations and Cooperation between States in accordance with the UN Charter." However, in connection with the actual completion of the decolonization process, there is any practical significance of this Article (Hnatovskiy, 2017).

As for the concept of "hybrid" warfare, it was first introduced by General James N. Mattis in September 2005 during the defense conference organized by the US Naval Institute and the Marine Corps Association. This concept was later presented jointly with F. Hoffman in November 2005 in an article entitled "Future Warfare: The Rise of Hybrid Wars". The servicemen believe that in the future we will face not a number of adversaries, each of which chooses a separate, unconventional or other method of resistance, but with adversaries who simultaneously use all available methods of resistance, manifesting them in the form of multimodal (mixed) or "hybrid" wars (Mattis & Hoffman, 2005).

Since at present the concept of "hybrid war" is not enshrined in the IHL rules, a number of scientists consider the concept of hybrid war as a war of a new generation. The representatives of the US legal science examine such terms to determine the scope and content of hybrid warfare. Hybrid – is a combination of disparate elements in a complete physical object, phenomenon or action. As Pynnöniemi & Jokela (2020) point out: "In modern Western language, the prefix "hybrid" has different meanings: it is most often used to describe the growing unpredictability and variety of threats to nations". Warfare is derived from war (war, the state and situation of a military conflict) and means "a set of means and features of warfare." And the term "hybrid warfare" literally means "hybrid means of waging war" (Pavlenko & Antonov, 2022).

In general, hybrid war can be defined as a set of military, diplomatic and informational actions prepared in advance and quickly implemented by the State, aimed at achieving strategic goals. At the same time, the absence of the need to develop new weapon systems and military equipment is of great importance. Hybrid war includes the implementation of a complex of hybrid threats of various types, namely: traditional, non-standard, large-scale terrorism, as well as subversive actions, during which innovative technologies to counter the military power of the enemy, such as massive cyber-attacks, subversive actions in the energy, economic spheres, etc., are used (Komarchuk, 2018, p. 50).

Methodology

Methodology is a set of methods, techniques for performing the research. Research methodology is a system of rules for the use of methods, techniques and operations. The choice of specific research methods is due to the nature of the actual material, conditions and purpose of the specific research. Methods are an ordered system in which their place is determined according to the specific stage of research, the use of technical techniques and operations with theoretical and actual material in a given sequence.

Common methods are the system of principles and techniques that are of general, universal character, abstract and not strictly regulated. Among general methods applied in this article are logical method, which helped in formulating the concepts of "armed conflict", "international armed conflict", "non-international armed conflict", "war" and "hybrid war". Dialectical approach was useful in the throughout study of the peculiarities of the IHL application in contemporary Russian-Ukrainian conflict. Analytical method was used for the identification of problems related to the IHL application in this armed aggression.

Special methods are those inherent in particular science. The following presented methods are special ones.

Through the application of the method of critical analysis of scientific literature, the works by scholars who investigated the essence of the abovementioned terms, as well as their views on the problems of IHL application during the armed conflict in Ukraine were analysed.

Legal and dogmatic method contributed to the analysis of legal instruments governing the issue under study (United Nations Charter, Convention (III) relative to the Opening of Hostilities, Geneva Convention relative to the Protection of Civilian Persons in Time of War, Geneva Convention relative to the Treatment of Prisoners of War, etc.).

The system and structural approach was used to identify the features of hybrid wars, the signs of the latter in the Russian-Ukrainian conflict.

Statistical method helped in presenting some data concerning the number of victims of war, the quantity of destroyed or damaged buildings and objects of civil infrastructure.

The normative and dogmatic method made it possible to analyse national legislature which regulates the subject matter of our research (Criminal Code of Ukraine, Law of Ukraine “On the National Security”).

The method of legal modelling was used to formulate relevant conclusions on the effectiveness of international humanitarian law during modern armed conflicts.

Results and Discussion

Modern international law prohibits the use of armed aggression against any sovereign State. Thus, the UN Charter (United Nations, 1945) provides that “all Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations”.

According to the rules of international humanitarian law, armed conflict can be international or non-international. It does not provide for a mandatory formal act of declaring war. It is believed that an international armed conflict arises only when one State uses its armed forces against another one. At the same time, neither the intensity, duration of the confrontation, nor the declaration (or non-declaration) of war, its recognition or non-recognition are important. Only the military intention of a single state in specific actions is taken into account.

This intention is sufficient for the application of international humanitarian law, which establishes the rules for conducting armed conflicts. It applies from the beginning of armed conflicts and goes beyond the cessation of hostilities until peace is concluded; or, in the case of internal conflicts, until a peaceful resolution of the conflict is reached. Until then, international humanitarian law continues to be applied throughout the territory of belligerent States or, in the case of internal conflicts, – throughout the territory under one party’s control, whether or not actual fighting is taking place there (United Nations International Criminal Tribunal for the Former Yugoslavia, 1999).

IHL is a branch of law that is a set of legal rules reflecting universal human moral norms that apply during armed conflicts. The first and second Hague Peace Conferences of 1899 and 1907 made an important breakthrough in the establishment and development of international humanitarian law as a separate branch of international public law. The subsequently adopted international legal acts on the limitation and use of means and methods of conducting armed conflicts led to the complete codification of the main institutions in this area. However, the most important result of the final formation of international humanitarian law was the adoption of the 1949 Geneva Conventions for the Protection of War Victims and Additional Protocols thereto in 1977. Accordingly, the scope of jurisdiction of this area began to reflect international cooperation interests, rather than the interests of States and their citizens as a whole (Repetskyi, 2015).

«Apogee» of its development this branch of law reached precisely in the 20th century due to the realization of the need for international legal regulation of the protection of victims of military conflicts. This happened due to the impressive number of dead and wounded during the First and Second World Wars, which became the bloodiest in the history of mankind. Therefore, without assessing the legitimacy or illegitimacy of an armed conflict, IHL is designed to protect the civilian population and its most vulnerable groups (women, children, the elderly, people with disabilities) from the terrible consequences of war. This branch of law is based on the principles of humanism, non-discrimination, equality, proportionality and relies on such qualities as mercy, compassion, humanity, which are inherent in human nature.

This connection between moral and legal norms is well reflected in the Martens Clause – the provision enshrined in international treaties, but referring to the rules of humanity and morality: “In cases not provided for by this Protocol or other international agreements, civilians and combatants remain under the protection and effect of the principles of international law arising from established customs, from the principles of humanity, and from the demands of public consciousness”. Thus, even in cases where there are no relevant legal rules in specific international treaties, and the principles of humanity and the requirements of public

consciousness, public morality contain them, and are aimed at the protection of civilians and combatants, these norms become an integral part of international law, and acquire a legal form, giving rise to legal obligations to observe them (Voitenko et al., 2016).

The military confrontation between Russia and Ukraine, which began in 2014 with the Russian armed invasion of Crimea with the subsequent occupation of the peninsula, the war in the east of Ukraine (Donbas), which lasted until the beginning of a large-scale invasion on February 24, 2022, is an international armed conflict governed by the rules of international humanitarian law.

However, the Russian-Ukrainian war that began in 2014 was not immediately qualified as an international armed conflict by all international law actors. Evidence of effective control by Russia over organized armed formations in the East of Ukraine was then needed, since the war in Ukraine until 2022 had a hybrid nature, the armed conflict was mediated, the war was not conducted on behalf of Russia. Currently, Russia uses the obligations of the international humanitarian law rules at its own discretion and does not qualify it as an armed conflict either. Direct legal prohibitions on the use of the term “war” have been introduced. However, the current stage of war is open (unlike the initial stage of the armed conflict, which began on February 20, 2014), is characterized by the theater of hostilities in several States, and therefore has all the signs of an international armed conflict (Tsarenko et al., 2023, p. 609).

At the same time, the Geneva Conventions do not operate with the concept of “hybrid war”; only the definitions of “war” (armed confrontation between two or more sovereign States), as well as “international armed conflict” (cases when one international law actor uses armed force against another one) and “non-international armed conflict” (conflicts that occur on the territory of a State between its armed forces or other armed groups which, being under command, exercise such control over part of its territory). This situation does not correspond to the current circumstances, because hybrid wars are a type of escalation of conflicts, characteristic of the 21st century. Examples of modern hybrid wars are the Lebanon War of 2006; the Russian-Georgian war of 2008; Russian aggression in Crimea and Eastern Ukraine since 2014; a full-scale invasion of the Russian Federation into Ukraine in 2022.

The features of hybrid wars are: – aggression without an official declaration of war; – the abuser’s concealment of its participation in the conflict; – widespread use of irregular armed formations (including under cover of civilians); – the aggressor’s disregard for international rules of hostilities and current agreements and arrangements in force; – mutual measures of political and economic pressure (for the formal preservation of ties between the two countries); broad propaganda and counter-propaganda using “dirty” information technologies; – confrontation in cyberspace (Sytnyk, 2017).

Remarkably, that all modern conflicts share these traits. For example, in the course of Russian-Georgian war of 2008, both sides avoided calling this conflict a war – Georgia named it “establishing a constitutional order on the territory of South Ossetia”, and Russians declared about “the operation to force peace”. Along with the hostilities, an active phase of the propaganda began, in which key Russian mass media played a leading role. They created persistent “images” of the enemy: Georgia, Georgians, President Mikheil Saakashvili, and the collective image of the West. All publications supported the image of the enemy to varying degrees. For this the pronouns “they” and “we”, which characterized the journalists’ attitude to the war, were used. A year after the end of the war, journalists called Saakashvili “a provocateur and war criminal” and criticized his actions. The media of “Rossiyskaya gazeta” characterized him as a “sick person”.

The conflict was initiated by the Russian peacekeeping troops, who began to shell Georgian villages. At that time 4 battalions acted on the territory of Georgia: Russian peacekeeping battalion, Georgian peacekeeping battalion, a South Ossetian peacekeeping battalion and North Ossetian peacekeeping battalion. So, it is clear that three battalions were actually Russian and one Georgian. When shelling began, the Russian representatives pled “not guilty” and said that the shell was supposedly fired from the third party, although near the borders of Georgia there was a group of the Russian army numbering 85 000 people with equipment and ammunition.

Note that the Russian invasion of the territory of Ukraine has all the signs of hybrid war as well: 1) there was no official declaration of war – initially (in February 2014) there was a military invasion operation carried out by Russian troops without insignia on the territory of Crimea for its annexation. The war in eastern Ukraine (April 2014) began with the creation of the terrorist so-called Donetsk and Luhansk

“People’s republics” by the special services of the Russian Federation under the guise of “people’s” demonstrations. The full-scale invasion of Ukraine was presented by Russian propaganda as a “special military operation”; 2) Russia does not in any way recognize itself as a party to the conflict – from the very beginning, the Russian authorities called the events in Crimea and Eastern Ukraine a “civil war” as the response of Crimean and “people of Donbas” to “coup d’état” in Kyiv (Revolution of Dignity); 3) Russian propaganda actively works not only on the territory of conflict countries, but also in other States, constantly misinforming the local population (by distorting facts, providing false or fiction information) and carrying out psychological influence. In general, Russian propaganda is distributed in at least 40 languages in 160 countries of the world (The Voice of Russia, 2014); 4) the Russian-Ukrainian war is no less active in cyberspace. Thus, Russia is scaling up the number and quality of attacks – from 1,400 in 2021 to 4,500 in 2022 and 2023. And we are talking only about powerful cyberattacks that the Security Service of Ukraine detects and repels. Russia’s investments in cyberattacks are measured in billions of rubles – and this amount is constantly increasing. They are trying to combine kinetic, psychological and cyber operations (Melnyk, 2024); 5) Russia’s absolute disregard for international rules of hostilities and current agreements and arrangements in force.

And the latter is a huge problem, because Russian soldiers constantly “terrorize” the residents of Ukrainian cities and villages, performing regular attacks on residential buildings and civilian infrastructure, torture, kill, kidnap and rape civilians in the temporarily occupied territories, deprive them of access to food and drinking water, medicines, medical aid, thereby causing a humanitarian catastrophe in these territories (Donbas, occupied areas of Kharkiv, Zaporizhzhia, Kherson regions). At the same time, the occupiers, as a rule, do not allow the humanitarian supplies to pass, violate the agreements on humanitarian corridors, which is also an element of the Russian military strategy.

According to the UN, at least 3,375 civilians died in the war between 2014 and 2021 (that is, before the full-scale invasion); between 7,000 and 9,000 Ukrainian citizens were injured (Office of the High Commissioner for Human Rights, 2021).

During the full-scale invasion, according to the same organization, more than 30 000 peaceful citizens of Ukraine became the victims of Russian aggression: 10 thousand 582 people died and 19 thousand 632 were wounded. More than 100 peaceful Ukrainians died in Russian captivity, one of them was a child. These data reflect only the number of civilian casualties verified by the organization: in fact, they are many more, but it is impossible to establish a precise figure before the war ends (Türk, 2024).

In addition, during the full-scale invasion, the Russians destroyed more than 210,000 buildings in Ukraine. Among them are objects of civil infrastructure (hospitals, schools, churches), the destruction of which is prohibited by the Geneva Conventions. Scientists along with journalists counted at least 106 destroyed hospitals and clinics, 109 religious objects and 708 educational institutions – schools, colleges and universities (Hernandez et al., 2024). However, the figures published by the publication are minimal, because these are only the destruction that the satellite indicated. The scale of the damage is much greater and continues to grow with each passing day of hostilities and shelling by the terrorist State.

Mass violations of the rights of civilians in the occupied territories or during hostilities testify to the gaps in the international legal regulation of their status. Thus, the IV Geneva Convention mentions the wounded, the sick, the elderly, children under 15, pregnant women and mothers with children under 7 as civilians, who are guaranteed protection from the consequences of war (Article 14), as well as special protection of the disabled, killed and wounded (Article 16) (United Nations, 1949a). In the modern world, the terms “vulnerable persons” or “low mobility persons” is used, which includes: persons with disabilities, pregnant women, persons accompanying small children, elderly persons, persons with temporary functional impairments, etc. In general, such persons, even if they are not in the places of hostilities or in the occupied territory, become “indirect victims of the armed conflict”, because under conditions of the armed conflict they, for example, experience the lack of medical assistance. For example, oncological patients do not receive the necessary drugs for life support, do not have access to radiation therapy, surgical intervention, etc. The same applies to the patients with AIDS, persons with mental disorders, palliative patients and so on. Such civilians are the most vulnerable categories of persons during an armed conflict. The deterioration of their health is not recorded in relation to the cause – the conduct of hostilities by Russia on the territory of Ukraine. Therefore, there is an urgent need to put the rules of Geneva Convention in line with modern wordings of the said categories of people to ensure their full protection during hostilities.

Separately, we should address the issue of the attitude of the Russians towards Ukrainian prisoners of war, which is also a flagrant violation of the norms of international law. First, the captured Ukrainian fighters are kept in the so-called “information vacuum” – they are not given the opportunity to communicate with relatives and friends, they are told that neither the authorities nor their relatives need them, that Ukraine no longer exists as a State, that they have been abandoned, etc. Prisoners of war are subjected to regular torture and humiliation: they are beaten, deprived of food and water, medical care, medicines, including vital ones (for example, insulin, painkillers), kept in cold unheated rooms, forced to stay in uncomfortable positions for hours (for example, crawling or standing for more than 12 hours), etc.

From the captivity Ukrainian military return thinner by tens of kilograms, with significant health problems and psychological trauma. The head of the UN human rights monitoring mission in Ukraine, Danielle Bell, said that more than 95% of Ukrainian prisoners of war were tortured in the Russian Federation, and this is a war crime. The UN representative added that “fighters are tortured during the first interrogation. They are beaten with metal sticks, severely shocked with electric current. They are undressed. It’s terrible. This is the worst I have seen in my 20-year career visiting prisoners on behalf of the UN. Torture is widespread and structural” (Bell, 2024).

In general, lawlessness is thriving in the occupied territories: detentions usually take place even without the intervention of judicial authorities. Prisoners of war cannot be held in general places of deprivation of liberty – official detention camps must be created for them; instead, Ukrainian soldiers are kept in ordinary prisons. There are massive violations of procedural guarantees that concern lawyers and the equality of the process. A violation, for example, occurs when the prosecution presents evidence to the court, and the defendant is limited in this right, or when the court does not take into account arguments that refute the arguments of the prosecution. Citizens of Ukraine are not provided with lawyers, or such lawyers are formal; they often play the role of prosecution, convincing their clients to “plead guilty”. Translation during the court session is also not provided (Korolova, 2024).

Geneva Convention III (United Nations, 1949b) governs the issues of treatment of prisoners of war, in particular, prohibiting violence against life and person, including all types of murder, mutilation, ill-treatment and torture, insult to human dignity, i.e. offensive and humiliating treatment (Article 3), but the aggressor state does not recognize their status as combatants, therefore, they are deprived of all the rights of the latter: to send and receive letters, transfers and parcels with food, clothing, medicine, and religious, educational, or recreational items that may meet their needs, including books, religious items, scientific, sport equipment, etc. (correspondence is transmitted through the representatives of the Red Cross).

At the same time, unfortunately, we observe the actual inaction of the International Committee of the Red Cross (ICRC), which is the only organization authorized to record violations of the Geneva Conventions. Its task is to act as a mediator between parties to conflicts with the right of access to prisoners of war. According to its mandate, the ICRC has the right of access to prisoners in order to check the conditions of their detention and make sure that they are not subjected to torture. In accordance with the international humanitarian law, ICRC representatives should have access to all facilities used by prisoners of war: cells, toilets, showers, food blocks, medical station. Another mission is the search for people: the ICRC officially confirms the prisoner’s; the representative of the organization can confirm this status if he or she has recorded a military serviceman among the prisoners, or when he receives official confirmation from the belligerent States (United Nations, 1949b).

However, as noted by the Ombudsman of Ukraine Dmytro Lubinets (2023), “the International Committee of the Red Cross does not cope with this mandate at all, they do nothing. You know, they have such an ostrich position: we note that the Russians are not allowed to the places of detention of Ukrainian prisoners of war. And we have been hearing such a refusal since 2014”.

The ICRC assures that visits to prisoners in the Russian Federation and the occupation are taking place. Quantitative assessments are not given, because, as they explain, according to their Charter, they are not entitled to. The Red Cross provides the following statistics: since February 24, 2022, representatives of the ICRC have visited 3,000 prisoners of war on both sides of the front line, without specifying how many of them are Russians and how many are Ukrainians. Information on the violations discovered during the visit is not reported to anyone except the prison administration and their management. This is a constant approach of the Red Cross, which it does not conceal. The representatives of the mission simply pass on complaints and comments to the administration of the institution where the prisoners are kept, so that they

can eliminate the shortcomings and improve the conditions of detention. If the problem is not eliminated, the mission can appeal to a higher authority, for example, to the ministry. This information is never made public – complaints remain, in fact, in the hands of the aggressor State. Moreover, the facts recorded by the ICRC cannot be evidenced in court and the representatives of the organization even have immunity from testifying at the International Criminal Court (Nedelko, 2024).

Note that since the beginning of Russia's full-scale invasion of Ukraine, the International Committee of the Red Cross has been constantly criticized both at the State level and at the legal level: it does not speak out about Russia's violation of the Geneva Conventions; uses the rhetoric inherent in Russian propaganda; most of the Ukrainian soldiers did not see its representatives during their captivity; even the recording of the exit from Azovstal was not fully completed by the ICRC. At the same time, the organization does not play any role in the exchange of prisoners during the war, because this does not belong to its mission. Because of all this, prisoners and their relatives often call the ICRC an inactive and unnecessary organization.

Regarding this situation, the executive director of the Ukrainian Helsinki Union for Human Rights Oleksandr Pavlichenko noted that the Red Cross is only a tool for the implementation of humanitarian law, and it is not always effective, because States do not fully fulfill their obligations under the Geneva Conventions. The expert advises not to have high expectations of the Red Cross and not to entertain illusions about application of its mandate (Nedelko, 2024). At the same time, the participation of non-governmental, international organizations in such situations is crucial, since a number of human rights violations and violence on a large scale are recorded during wartime (Shablysty et al., 2023, p. 34).

Another problem is detention of civilians in the occupied territories – they are not combatants according to the norms of international humanitarian law, but, in fact, they are prisoners. Thus, Geneva Convention III (United Nations, 1949b) considered prisoners of war only civilians accompanying the armed forces, but are not actually part of them (the crews of military aircraft, military correspondents, suppliers, personnel of work units or domestic services of the armed forces, etc.) and the residents of unoccupied territory who, as the enemy approaches, are armed to resist the forces of the invader, without forming regular troops. In fact, we face the situation, when Russians soldiers capture all civilians, who, in their opinion, may pose a threat to their authorities (policemen (former and present), other law enforcement officials, teachers, local activists, etc.)

That is, in violation of the IHL rules, Russia does not distinguish between the two legal statuses of persons – civilians (IV Geneva Convention) and prisoners of war (III Geneva Convention). At the same time, a state can detain a prisoner of war for an indefinite period until the end of the armed conflict, and a civilian must be released as soon as the need to detain him disappears. Civilians of Ukraine should have already been released, but they are still in captivity (currently, more than 8,000 people are in captivity, including more than 1,600 civilians; tens of thousands of people, both civilians and prisoners of war, remain missing (Interfax, 2024). Consequently, the armed conflict in Ukraine revealed the inconsistency of the modern legal regime of Ukrainian prisoners with the qualification of their status in the III Geneva Convention.

As a result, there are a number of Geneva Conventions' rules that the Russian Federation has violated: baseless attacks on civilians, murders, torture, destruction of civilian property, attacks on medical, educational and cultural institutions, obstruction of medical and humanitarian aid, failure to provide basic needs of the residents on the occupied territories, systematic violation of their rights, inhumane treatment of prisoners of war – this is an incomplete list of crimes committed by the Russian authorities, which are documented daily on the territory of Ukraine. Photos and videos that regularly appear on the Internet, as well as eyewitness accounts, confirming the facts of the violations.

At the same time, we note that back in 2019, Russia pulled out from the Geneva Convention relative to the Protection of Civilian Persons in Time of War by withdrawing the declaration made by the USSR upon ratification of the additional Protocol to the Geneva Conventions of August 12, 1949, and, therefore, this country does not recognize the jurisdiction of the UN Special Commission to act as a judicial body investigating violations of this Convention. Therefore, the UN will not be able to prosecute Russia for violating the rights of civilians during the war, because the International Court of Justice is competent to consider disputes only if the interested States have recognized its jurisdiction.

Russia was also a signatory of the Rome Statute, adopted in 1998 at a diplomatic conference in Rome, the essence of which is to establish the functions, jurisdiction and structure of the International Criminal Court

(ICC). However, in 2016, after the International Criminal Court confirmed that the occupation of Crimea is an international armed conflict, Russia withdrew from the agreement. However, unlike the UN Court, this does not prevent the ICC from prosecuting Russian crimes on the territory of Ukraine.

Note that although Ukraine signed this document back in 2000, ratification took place only on August 21, 2024. According to the ICC Statute, the Court's jurisdiction is limited to the most serious crimes that cause concern to the entire international community: a) the crime of genocide; b) crimes against humanity; c) war crimes; d) crime of aggression.

On March 02, 2022, on the basis of an appeal from the countries participating in the Rome Statute, the Office of the Prosecutor of the International Criminal Court announced the start of an investigation into the situation in Ukraine regarding the commission of war crimes, crimes against humanity and genocide on the territory of Ukraine. However, there is no crime of aggression among these international crimes. The Prosecutor Karim Khan explained this by the fact that the ICC does not have jurisdiction over the investigation of the crime of Russian aggression against Ukraine, since neither Ukraine nor the Russian Federation has ratified Pat 5 of the Rome Statute, Article 15-bis of which provides that in respect of a State not party to the Rome Statute, the Court shall not exercise its jurisdiction over the crime of aggression committed by citizens of this State or on its territory (International Criminal Court, 2022). Separately, we note that the crime of aggression includes planning, preparation, initiation or execution an act of aggression, which by its nature, seriousness or scale is a gross violation of the UN Charter by the person who may actually direct or control political or military actions of the State. An act of aggression is the use of armed force by a State against sovereignty, territorial integrity or political independence of another State, in any way incompatible with the UN Charter.

At the same time, the Prosecutor's Office of the ICC has already noted that crimes in the form of deprivation of the right to a fair trial have probably been committed on the territory of Ukraine. For example, Ukrainian servicemen from "Azov" were accused of terrorist activities against Russia. However, the Russian authorities did not have the right to try the Azov servicemen on these charges, because they are combatants according to the international law rules, and in the case of being captured, they enjoy the immunity of a combatant – the right not to be tried for participating in hostilities.

Consequently, the armed conflict in Ukraine revealed the inconsistency of the modern legal regime of Ukrainian prisoners with the qualification of their status in the III Geneva Convention. In violation of the international humanitarian law rules, Russia does not separate the two legal statuses of persons – civilians (IV Geneva Convention) and prisoners of war (III Geneva Convention), and considers them as equal. However, the institution of responsibility for the State's failure to fulfill the obligations of the Geneva Conventions are not provided for. The only exception can be considered the rules of Additional Protocol I to the Geneva Conventions of 1977 on the establishment of the International Humanitarian Fact-finding Commission. However, such facts cannot be made public without the consent of the parties to the armed conflict, therefore this mechanism of influence on the offending state is not very effective (Tsarenko et al., 2023, p. 610).

In general, ensuring compliance with international humanitarian law is an extremely difficult task, because the liability lies with the States themselves, which are obliged to take measures to prevent violations of IHL and are responsible for them. They also carry responsibility for infringements committed by all branches of government and persons under their authority or control. The parties to an armed conflict are also obliged to bring persons guilty of violations of IHL to justice. Therefore, the national legislation contains mandatory rules on liability for IHL violations (in Ukraine, it is Article 438 of the Criminal Code) (Law No. 2341-III, 2001).

In addition to the criminal responsibility of an individual at the national level, there is an international criminal responsibility – if the State is unwilling or unable to bring individuals guilty of IHL violations to responsibility at the national level, the liability at the international level is applied.

There is an institution of international criminal liability of individuals in international law, which enables to prosecuting perpetrators of international crimes. Prosecution is carried out by international criminal courts or tribunals, and the components of these crimes are defined in international legal sources, primarily in the statutes of international criminal courts or tribunals.

However, the individual's international legal liability also raised problems. Thus, on March 17, 2023, the International Criminal Court issued a warrant for the arrest of Russian President Vladimir Putin for the war crime in the form of illegal deportation of the population from the occupied territories of Ukraine to the Russian Federation, including children, at least from February 24, 2022 (in the proceedings, in which the Prosecutor's General Office carries out procedural management, the deportation of almost 20,000 children from the occupied regions has been recorded, but the real figure may be much higher). This means that if the head of Russia goes abroad in an ICC member State, he should be arrested and brought to court.

Sadly, the execution of arrest warrants also depends on international cooperation, that is, the State that has ratified the Rome Statute may not fulfill its obligation to the ICC. This is exactly what happened during the visit of the Russian president to Mongolia, where, instead of being treated as a war criminal, he was met with all kinds of honors, because this country has excellent relations with Russia, and all aspects of the visit were discussed in advance.

According to the spokesman of the Ministry of Foreign Affairs of Ukraine, H. Tykhyi (2024), "this is a severe blow to the International Criminal Court and the international system of criminal law. A dangerous precedent will be created, primarily for the countries of the Global South. As a result, the authority of the International Criminal Court will be significantly weakened, which is exactly what Putin is trying to achieve".

Conclusions

As a result of the conducted research, we can say that the war in Ukraine has exposed a number of problems of the application of IHL during armed conflicts. Firstly, the definition of "hybrid war" is missing in its regulations, although it is exactly what is taking place on the territory of our State. This situation does not correspond to the current situation, because hybrid wars are a type of escalation of conflicts, characteristic of the 21st century, which can be seen in the examples of confrontations taking place in a number of countries.

Secondly, there are gaps in the international legal regulation of the status of civilians, who are guaranteed protection from the consequences of war. In the modern world, the terms "vulnerable persons" or "low mobility persons" are used; instead, the IV Convention operates on concepts of "the wounded and sick, as well as the infirm, and expectant mothers". Therefore, there is an urgent need to put the rules of Geneva Convention in line with modern wordings of the said categories of people to ensure their full protection during hostilities.

Another problem is detention of civilians in the occupied territories – they are not combatants according to the norms of international humanitarian law, but, in fact, they are prisoners. Russia does not distinguish between the two legal statuses of persons – civilians (IV Geneva Convention) and prisoners of war (III Geneva Convention). Consequently, the armed conflict in Ukraine revealed the inconsistency of the modern legal regime of Ukrainian prisoners with the qualification of their status in the III Geneva Convention.

Due to the fact that in 2019 Russia withdrew from the Additional Protocol I, the UN will not be able to judge it for violations of the rights of civilians during the war, because the International Court of Justice is competent to consider disputes only if the interested States have recognized its jurisdiction. Consequently, a logical question arises: what is Russia doing in the United Nations and in the UN Security Council, where it blocks decisions to end war crimes on the territory of Ukraine, which are committed on daily basis, using the gaps and weaknesses of international institutions and legal documents?

However, it will not be possible to exclude the aggressor from the UN without reforming the organization itself, because the Security Council includes 15 member States out of 193 countries and it is "paralyzed" by the Russian Federation's right of veto. And the problem is not that the Security Council is ineffective, but that for more than 20 years, the world has allowed Moscow to turn into an absolutely uncontrolled autocracy that transparently ignores international law and the decisions of international organizations.

Russia's third State status under the Rome Statute is not an obstacle for the ICC to prosecute the crimes of Russians on the territory of Ukraine, so the Office of the Prosecutor of the ICC has already announced the beginning of an investigation into the situation in Ukraine regarding the commission of war crimes, crimes

against humanity and genocide on the territory of Ukraine. The collection of materials and the selection of cases that it will consider have now begun, but their number will be limited, as it is in other States where the ICC worked. However, among these international crimes there is no crime of aggression, because the ICC does not have jurisdiction over the investigation of the crime of aggression by Russia against Ukraine.

The Ukrainian State should also contribute to the investigation of war crimes: law enforcement agencies should properly collect, document and conduct investigations into these crimes; work with judges, who must understand that they are an impartial branch of government and must diligently examine the evidence base and make decisions impartially; to change the national criminal procedural legislation by introducing the rules of international humanitarian law and transferring all the qualifying signs of violation of the laws and customs of war in relation to war crimes in order to qualitatively qualify and investigate them.

Nowadays, international humanitarian law is at a stage when its norms require updating and refinement for their future observance and implementation by all international law actors. The Russia's full-scale invasion of the territory of Ukraine revealed the lack of IHL rules, which would ensure the implementation of international coercion against the aggressor (violating) state (violating state), and made this issue particularly acute (Tsarenko et al., 2023, p. 611).

The prospects for the further research are finding the ways to bring IHL rules into line with modern conditions, i.e. determining the methods and modes of enshrining the concept of "hybrid war" in Geneva Conventions, review of the civilians' status during such wars and seeking for effective means to bring aggressor state to international responsibility.

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