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Chapter I. THEORETICAL AND PEDAGOGICAL PROBLEMS OF MODERN EDUCATION

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«ПРОЄКТ «ГІРСЬКА ШКОЛА» – ВІДПОВІДЬ НА ВИКЛИКИ ЧАСУ» (Василь ХРУЩ)

Анотація. У 2025 році виповниться 90 років з дня народження засновника міжнародного проєкту «Гірська школа. Стан. Проблеми. Перспективи розвитку», а також наукового фахового видання з педагогічних наук «Гірська школа Українських Карпат» Василя Хруща. Проєкт є першим і єдиним на сьогодні комплексним дослідженням впливу гірського середовища на розвиток, навчання і виховання школярів. У проєкті беруть участь учені з багатьох країн світу: США, Польщі, Словаччини, Угорщини, Швейцарії, Австрії, Румунії. Справа, започаткована професором В. Хрущем, продовжується.

Ключові слова: Василь Хрущ, проєкт «Гірська школа», наукове фахове видання, гірське середовище, розвиток особистості, колектив дослідників.

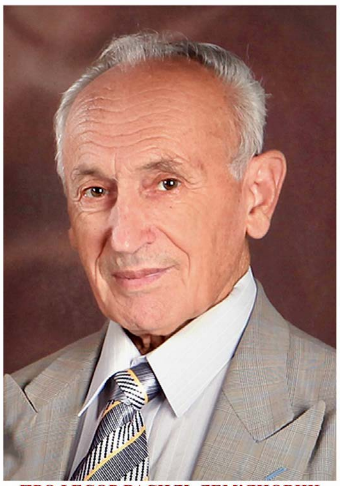
«THE «MOUNTAIN SCHOOL» PROJECT – A RESPONSE TO THE CHALLENGES OF OUR TIME» (Vasyl KHRUSHCH)

Abstract. In 2025, the 90th anniversary of the birth of the founder of the international project «Mountain School: State, Problems, Development Prospects» and the scientific professional journal in pedagogical sciences «Mountain School of the Ukrainian Carpathians», Vasyl Khrushch, will be celebrated. The project is the first and only comprehensive study of the impact of the mountain environment on the development, education, and upbringing of schoolchildren. Scientists from many countries around the world, including the USA, Poland, Slovakia, Hungary, Switzerland, Austria, and Romania, participate in the project. The work initiated by Professor V. Khrushch continues.

Keywords: Vasyl Khrushch, «Mountain School» project, scientific professional journal, mountain environment, personality development, research team.

In 2025, the 90th anniversary of the birth of Vasyl Khrushch, the founder of the international project «Mountain School: State, Problems, Development Prospects» and the scientific professional journal in pedagogical sciences «Mountain School of the Ukrainian Carpathians,» will be celebrated. Among dozens of socially significant projects developed by scientists from Vasyl Stefanyk Precarpathian National University, the international project «Mountain School» holds a leading position. In the context of globalization, it contributes to solving specific problems faced by local communities and helps prevent negative influences that erode the national and ethnic identity of mountain region populations.

Vasyl Khrushch was born on September 10, 1935, into a large peasant family in the Khmelnytskyi region (Kamianets-Podilskyi district, Kalynia village), where he grew up in a loving family surrounded by the picturesque nature of Podillia. During his childhood and post-war youth, he developed a deep respect for people, a love for nature, and a special reverence for all living things.



ПРОФЕСОР ВАСИЛЬ ДЕМ'ЯНОВИЧ ХРУЩ – ПЕДАГОГ, УЧЕНИЙ, ОРГАНІЗАТОР ОСВІТИ

Vasyl Khrushch studied at the Kamianets-Podilskyi Men's School and, upon graduation, entered the Khotyn Veterinary Technical School in 1954, where he obtained a veterinary qualification. He continued his education at the Ivano-Frankivsk Pedagogical Institute at the Faculty of History and Philology, graduating with honors.

After completing his studies at the pedagogical institute, he worked as a teacher of the Ukrainian language and literature at the secondary school in Dubivtsi village, Halych district, Ivano-Frankivsk region. Besides teaching, he also led a music club and directed the school choir.»

In 1965, Vasyl Khrushch was invited to work as a lecturer at the Department of Pedagogy at the Ivano-Frankivsk Pedagogical Institute. He pursued postgraduate studies and, after completing them in 1972, took up the position of Head of the Department of Pedagogy and Psychology.

This was followed by a long-term overseas assignment in the Republic of Cuba, where V. Khrushch worked for over five years as an advisor-consultant to the rector of the university in Santa Clara and later as an advisor to the rector of the university in Manzanillo.

Upon returning to Ukraine and his home pedagogical institute, he established the Faculty of Advanced Training and Retraining, which he led for nearly 20 years. He also headed the Department of Theory and Methods of Primary Education for a long time.

Vasyl Khrushch's scientific interests encompassed issues of education, training, and personality development, ethnopsychology, and the peculiarities of personal development in a mountain environment. Professor V. Khrushch published over 270 scientific works, including more than 50 in foreign scientific journals.

One of Professor Vasyl Khrushch's most significant scientific achievements is the international project «Mountain School: State, Problems, Development Prospects,» which he initiated in 2006. In 2004, in the mountainous region of Chernivtsi Oblast, in the town of Putyla, the Ukrainian National Mountain Committee was established. Among the 78 countries with Mountain Committees, Ukraine took a leading position. However, the committee's tasks did not include education, schools, or children, nor the study of the effects of the mountain landscape and other natural factors on the upbringing and development of students.

Meanwhile, mountain schools operate under special conditions and are located in 27 districts across four Ukrainian regions: Zakarpattia, Lviv, Chernivtsi, and Ivano-Frankivsk. Approximately 600 general secondary education institutions serve about 120,000 students in these regions. In Ivano-Frankivsk Oblast alone, one-third of the schools (around 200) are in mountainous areas. In addition to the general challenges faced by the education system, these schools experience unique problems similar to those in other mountainous countries.

Recognizing these challenges, Vasyl Khrushch, along with the faculty of the Department of Theory and Methods of Primary Education, sought to fill the gap in research on the specific functioning of mountain schools in Ukraine. According to project participants, schools, alongside the social activity of governmental and non-governmental organizations, should engage in the active development of the Carpathian region, preserving its beauty and uniqueness (Khrushch V., 2006, pp. 79-80). The project's significance has been recognized at the national level, receiving a silver medal from the Ministry of Education and Science and the Presidium of the National Academy of Pedagogical Sciences of Ukraine.

The accumulation of scientific material and data on the work of mountain schools and individual teachers necessitated its publication. Thus, in 2006, Professor Vasyl Khrushch founded the scientific professional journal «Mountain School of the Ukrainian Carpathians,» serving as its chief editor for many years. The journal highlights the diverse influences of natural, socio-economic, cultural, psychological, and other factors of the mountain environment on personal development (Khrushch V., 2017, p. 19). In 2007, the journal was registered by the UNESCO International Organization for Standardization and has been published in English in recent years, allowing it to be represented in the international scientific community and accessible to researchers worldwide.

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ВИКОРИСТАННЯ ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНИХ ТЕХНОЛОГІЙ У ПРОФІЛАКТИЦІ ІНФОРМАЦІЙНОГО НАСИЛЬСТВА В ОСВІТНЬОМУ СЕРЕДОВИЩІ ПЕДАГОГІЧНИХ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ

Анотація. У статті досліджується проблема профілактики інформаційного насильства в освітньому середовищі педагогічних закладів вищої освіти засобами інформаційно-комунікаційних технологій. Актуальність дослідження детермінована зростанням впливу інформаційно-комунікаційних технологій на сучасне суспільство та посиленням проблем інформаційного насильства, особливо серед молоді, в тому числі в освітньому середовищі університетів.

Мета статті – визначити ефективні підходи використання інформаційно-комункаційних технологій у профілактиці інформаціного насильства в освітньому середовищі педагогічних закладів вищої освіти. В дослідженні застосовано методи теоретичного аналізу наукової літератури, узагальнення педагогічного досвіду та аналізу даних. Основні напрямки застосування інформаційно-комунікаційних технологій у профілактиці інформаційного насильства охоплюють моніторинг, аналіз контенту, розслідування та навчання. Дослідження показують, що завдяки використанню інструментів інформаційно-комунікаціних технологій для проведення опитувань, соціальних мереж, чат-ботів, сервісів моніторингу, штучного інтелекту та онлайн-платформ можливо досягти значних результатів у протидії інформаційному насильству. Наукова новизна дослідження полягає у розробці комплексного підходу до використання інформаційно-комунікаційних технологій для профілактики інформаційного насильства в освітньому середовищі педагогічних закладів вищої освіти. Практична значущість дослідження полягає в тому, що отримані результати можуть бути використані для розробки програм з профілактики інформаційного насильства, підготовки фахівців, які зможуть ефективно протидіяти явищам інформаційного насильства, а також для створення інформаційних ресурсів для здобувачів вищої освіти, викладачів та іншого персоналу закладів вищої освіти.

Ключові слова: інформаційне насильство, профілактика, педагогічний заклад вищої освіти, інформаційно-комунікаційні технології, освітнє середовище, професійна підготовка, майбутні вчителі.

THE USE OF ICT IN THE PREVENTION OF INFORMATION VIOLENCE IN THE EDUCATIONAL ENVIRONMENT OF HIGHER EDUCATION INSTITUTIONS

Abstract. The article examines the problem of preventing information violence in the educational environment of pedagogical institutions of higher education by means of information and communication technologies. The relevance of the study is determined by the growing influence of information and communication technologies on modern society and the growing problems of information violence, especially among young people, including the educational environment of universities.

The purpose of the article is to determine effective approaches to the use of information and communication technologies in the prevention of information violence in the educational environment of pedagogical institutions of higher education. The study used the methods of theoretical analysis of scientific literature, generalisation of pedagogical experience and data analysis. The main areas of application of information and communication technologies in the prevention of information violence include monitoring, content analysis, investigation and training. Studies show that the use of information and communication technology tools for conducting surveys, social media, chatbots, monitoring services, artificial intelligence and online platforms can achieve significant results in countering information violence. The scientific novelty of the study is the development of an integrated approach to the use of information and communication technologies for the prevention of information violence in the educational environment of pedagogical institutions of higher education. The practical significance of the study is that the results obtained can be used to develop programmes for the prevention of information violence, train specialists who can effectively counteract the phenomena of information violence, as well as to create information resources for higher education students, teachers and other staff of higher education institutions.

Keywords: information violence, prevention, pedagogical higher education institution, information and communication technologies, educational environment, professional training, future teachers.

INTRODUCTION

The problem formulation. The development of information and communication technologies (ICT) leads to the development of educational interaction between participants and educants. The intensity of such development gives rise to new challenges, among which the issue of information violence (IV) is particularly acute. IV is becoming a significant threat to the younger generation, since it was during their development when a surge in the integration of information technologies into all fields of human life occurred. An important role under such conditions is played by higher education institutions (HEIs) of a pedagogical nature, in the educational environment of which training of specialists for work in various educational institutions is provided. Such specialists should develop in conditions that are free from various forms of violence, including IV. At the same time, future specialists of the educational field should have sound training in identifying, recognizing various forms, and IV preventing.

The issue of IV preventing (using ICT) in the educational environment of pedagogical higher education institutions remains insufficiently researched in modern realities. Filling this scientific and pedagogical gap is a necessary prerequisite for improving the quality of graduates' training of pedagogical higher education institutions and, as a result, the training of the younger generation.

Analysis of recent research and publications. In recent decades, there has been an increasing interest among scientists in the issue of IV in the educational environment. In particular, the studies presented by H. Smith (Smith, 2007) and O. Kupenko (Kupenko, 2014) outline a sharp increase in various forms of information violence in the educational environment, which, in their opinion, is due to the rapid development of ICT. The results of these studies confirm that IV not only negatively affects the psychological state of victims, but also contributes to the development of obstacles to the effective educational process, contributing to the destabilization of interpersonal relationships of educants in the educational environment. Yu. Hlinchuk emphasizes that a modern teacher must possess a whole range of competencies for IV prevention in professional activities. She states, in particular, that a teacher must possess such competencies as: informational, communicative, social, creative, emotional ones, of critical thinking, as well as competence in solving problems and making decisions. This combination will allow the future teacher to act effectively in conditions of IV manifestations, giving it the ability to protect itself or other representatives of education (Hlinchuk, 2024).

V. Ternopilska emphasizes that effective IV prevention is primarily "the development of harmonious educant-educant interaction of participants in the educational process in higher education institutions, taking into account value orientations, individual characteristics of student youth, and conducting regular educational work" (Ternopilska, 2024). At the same time, the researcher proves that media literacy (the ability to use ICT for critical comprehending of information) is one of the key prerequisites for effective IV prevention in the educational environment of pedagogical higher education institutions (Ternopilska, 2024, p.63). Thus, ICT contributes to media literacy development of higher education students through the use of various effective tools. L. Danylchuk, in the thesis, proves the effectiveness of ICT tools for violence prevention, which are based on the use of multimedia, information and reference, and analytical tools (Danylchuk, 2018).

A group of researchers from Kropyvnytskyi University presented a methodology for using ICT tools for the study and IV prevention. Such tools include services that help effectively visualize information, means of communication and cooperation between specialists, as well as web services for surveys and questionnaires. The use of such tools should be carried out in the conditions of a special information model (platform), which will provide diagnostic, communication and correction functions (Prysiazhniuk and all, 2021).

That is, in modern conditions, IV is a serious educational problem, the solution of which is possible under the conditions of developing future teachers' competencies, in particular in the effective use of ICT. This is explained by the fact that ICT have significant potential in diagnosing and correcting various forms of IV, while contributing to the formation of a safe digital educational environment in pedagogical higher education institutions.

THE PURPOSE OF THE RESEARCH

Define effective approaches to using ICT in IV prevention in the educational environment of pedagogical higher education institutions.

RESEARCH METHODS

The choice of methods and materials for the study is justified by its theoretical nature. The main research methods of the study include: collection and systematization of research on IV manifestations and the use of ICT for its prevention (or sources that are similar in content); system analysis of selected research; synthesis of information to find the best ICT tools for IV prevention in the educational environment of pedagogical higher education institutions. In order to clarify the basic concepts of the study, the method of content analysis was used.

The main source of information for the study was scientific papers, which were searched through the information systems Google Scholar and Web of Science. The following criteria were taken into account at the stage of selecting the source database: publication year, topic relevance, language of publication, and scientific level of the publication.

RESULTS OF THE RESEARCH

The use of ICT in IV prevention in the educational environment of a pedagogical higher education institution requires a general clarification of "prevention" concept. In pedagogical practice it is mostly associated with the prevention and consequences overcoming of a certain negative phenomenon (usually associated with behavioral norm violation, bad habits or manifestations of various forms of violent actions) (Vol'nova, 2016). That is, the selection of effective ICT tools for IV prevention in the educational environment is based on general preventive approaches.

First of all, preventive work should begin with identifying its negative manifestations. In the conditions of the modern educational environment, such a tool is services that allow conducting surveys of education seekers (in a confidential form). The use of digital technologies for assessing or surveying education seekers contributes to: "minimizing manipulation during the survey, guaranteeing the safety of research subjects, and contributing to maintaining academic integrity" (ilonovб and all, 2018). In other words, in IV prevention, such tools are particularly effective, making it impossible for the subject to identify the object of violence. For such specific diagnostics, it is recommended to use services such as Google Forms. It allows for quick data collection, does not require additional training of education seekers, as it has a simple and intuitive interface, has the ability to automatically evaluate the results of diagnostics, is characterized by convenient tools for data analysis, and also guarantees data storage and protection from unauthorized access (Osipchuk and all, 2019). In IV prevention in the educational environment of pedagogical higher education institutions, Google Forms should be used at the stage of primary research of academic groups for its manifestations. It should be noted that such an approach makes it impossible to identify students, which in turn will not allow other educants (who commit acts of violence) to establish their identity. That is to say, the student is fully protected within the framework of collecting data on IV manifestations, and his answers will be minimized in terms of distortion of the context.

It is worth stressing that the most common sources of producing informational violence are means of communication, in particular social networks. O. Fushtei emphasizes that social networks are both a source of cyberbullying and a means of its prevention (Fushtei, 2022). That is, in order to prevent IV manifestations in the educational environment of a pedagogical higher education institution, it is necessary to formulate a strategy of preventive measures. The author states, it is advisable to conduct an analysis of popular groups in social networks or messengers that are actively used by members of the student community. Such work consists of identifying (usually through automatic search tools) various forms of IV manifestation and through the same groups (communities, public pages) informing students about such forms of violence, methods of its identification, methods of prevention, as well as an algorithm of actions for notifying administrators of such communities (for further detection and prevention of spread).

Monitoring and support services are of great importance in IV prevention. For this purpose, it is advisable to implement chatbots that will serve to advise and support victims of negative information influences. In particular, the article "Using the Telegram messenger as a means of supporting the educational process under quarantine restrictions" (Nosenko O. V., Nosenko Yu. H., Shevchuk R. M.) highlights the possibilities of chatbot functionality in supporting students during distance learning (Nosenko and all, 2023). The advantages of using chatbots are their cross-platform characteristic (access to information materials is provided through the ability to access them on different devices), synchronous and asynchronous interaction (the ability to communicate instantly and remotely), exchange of messages in various formats (audio, video, photos), various types of communication (individual, group), the possibility of automation (providing feedback, sending information memos and reminders on a schedule). The author highlights that it is advisable to use chatbots in IV prevention for two purposes: firstly, they are convenient for use by specialists of special services whose scope of activity includes the prevention of various forms of violence, through convenient communication with education seekers; secondly, basic counseling on IV prevention may take place in automatic mode, through a sequential dialogue between the victim of violence and the messenger in which the chatbot is implemented.

An effective approach to IV preventing is monitoring social networks for its various forms. In particular, web services such as Brandwatch (https://www.brandwatch.com/) and Hootsuite (https://www.hootsuite.com/) allow you to track mentions in user publications, analyze the tone of a certain type of content, and detect cases of hate speech in real time. Using human language processing algorithms and big data analysis, these tools help: identify keywords that are markers of IV in its various manifestations; assess the emotional nature of a user's (company's) publication; track the spread of negative content among various interested user clusters. The optimal way to use such tools is to conduct a detailed analysis of social groups related to the educational environment of a higher education institution. This allows for centralized management of content from various social platforms related to a specific higher education institution. At the same time, tracking trends will contribute to the formation of detailed reports on the spread of a specific type of IV, and thus will allow identifying the main facilitators of negative content spread.

In modern conditions, it is extremely important to use the potential of artificial intelligence (AI), including in IV prevention. The potential benefits of AI implementing into the Ukrainian education system are in studying personalizing and increasing the efficiency of educational processes, as well as ensuring ethical norms and data confidentiality (Boiko and all, 2024). In the context of IV prevention, a rather important task is to recognize fake visual content used for various types of manipulation and distortion. In particular, a service such as Deeptrce (https://www.deeptracetech.com/) allows you to recognize edited materials, perform content analysis and its authenticity, and provi de an evidence base for identifying visual manipulations. A group of Australian researchers found that deep AI neural networks allow you to automate and improve the quality of identifying disinformation in social media (Li and all, 2015). IV prevention in the educational environment of higher education institutions using such tools will contribute to a more complete comprehending of the primary sources of manipulative content. It is advisable to use such tools for in-depth analysis of IV cases.

AI tools in IV prevention should be used in such areas as monitoring, content analysis, investigation and training. It is advisable to implement the outlined ICT tools in combination, which will increase the level of effectiveness of preventive measures against IV.

IV prevention should take place not only in the discourse of overcoming its consequences, but also in the direction of its early prevention. Thus, according to K. Zhurba, the effectiveness of IV prevention is determined by the appropriate level of education seekers' training in recognizing and counteracting various forms of its manifestations (Zhurba, 2024). A higher education seeker should be provided with an appropriate level of theoretical and practical training in identifying and counteracting various forms of IV. In the conditions of a digital educational environment, such training should be carried out by organizing webinars dedicated to informing about the risks of destructive content and methods of its prevention. For this purpose, it is advisable to use the following popular platforms:

Zoom (https://www.zoom.com/) allows you to conduct interactive web conferences involving a large number of participants, exchange multimedia, organize sessions and questions.

Google Meet (https://meet.google.com/) has similar tools as the previous one, but provides the ability to integrate into Google Workspace services, which allows you to significantly expand its capabilities in the context of organizing training.

Microsoft Teams (https://www.microsoft.com/uk-ua/microsoft-teams) offers integration with other Microsoft services, has a wide range of tools for video recording, speech recognition, but some functions are provided only on a paid basis.

The use of these platforms contributes to raising awareness among the educants of HEIs about the dangers of IV and developing joint strategies for its prevention. It is advisable to integrate the outlined platforms within the framework of formal and informal training for the formation of competencies in countering IV. It is worth noting that such tools allow the involvement of experts in cybersecurity, law or social work, which will contribute to raising the general level of information dangers awareness.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

The study represents the importance of organizing IV prevention in the educational environment of pedagogical higher education institutions. The explanation for this is the rapid development of ICT and their integration into all fields of human activity. A thorough analysis of the research has demonstrated ICT as an effective source of IV prevention. The main areas of ICT use in IV prevention are monitoring, content analysis, investigation and training. It has been established that thanks to ICT survey tools, social networks, chatbots, monitoring services, artificial intelligence and online platforms, it is possible to effectively counteract information violence. Particular effectiveness is achieved under the conditions of their harmonious combination, which allows ensuring IV prevention at different stages of its manifestation.

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КОМПАРАТИВІСТСЬКО-ПЕРСОНІФІКОВАНІ СТУДІЇ ПРО ДІЯЧІВ ПЕДАГОГІЧНОГО РЕФОРМАТОРСЬКОГО РУХУ КІНЦЯ XIX – ПЕРШОЇ ТРЕТИНИ XX СТ.

Анотація. У статті здійснено предметний порівняльний аналіз понад двох десятків виявлених різновидових компаративістсько-персоніфікованих праць (монографії, дисертації, наукові статті, матеріали наукових конференцій) про діячів педагогіки реформ кінця XIX – першої третини XX ст. Визначено науково-теоретичну і практичну цінність цього доробку для розвитку вітчизняної педагогіки та освіти.

Показано, що науковці не завжди зважали на методологічні установки і вимоги до підготовки означеної групи студій, які стосуються часових періодів, інших ознак, критеріїв зіставлення. Виявлено вузьке коло персоналій, що стали предметом таких досліджень. Переважно це були знані зарубіжні постаті – Дж. Дьюї, Я. Корчак, М. Монтессорі Р. Штайнер, з одного боку, та знакові представники української педагогічної думки – А. Макаренко, С. Русова, В. Сухомлинський, з іншого. Менш привабливими для вивчення є діади зарубіжних діячів як достатньо знаних (Ж. Декролі – С. Френе), так і менш відомих (Ален – О. Ребул) в українській педагогічній науці.

На конкретних прикладах схарактеризовано два умовно визначені методологічні підходи підготовки означеної групи студій. Перший – «дзеркальний-порівняльний» – передбачає уподібнення різних аспектів біографій і педагогічних систем (почергове виявлення подібних та відмінних елементів біографій, авторських систем, окремих ідей і поглядів). Другий – «паралельний» – підхід орієнтує на комплексний цілісний розгляд спершу однієї, потім другої педагогічних персоналій, відтак порівняльний аналіз їх біографій та педагогічних ідей. Визначено переваги та обмеження кожного підходів, а також перспективність підготовки студій, у яких порівнюються погляди не двох, як зазвичай, а трьох і більше педагогів/

Узагальнено науково-теоретичне і дидактичне значення таких розвідок для розвитку педагогічної історіографії та освітнього процесу України.

Ключові слова: історіографія української педагогічної науки, педагогічна біографістика, педагогічна персоналія, зарубіжний педагогічний реформаторський рух кінця XIX – першої третини XX ст., історіографічне джерело.

COMPARATIVE AND PERSONALISED STUDIES OF THE FIGURES OF THE PEDAGOGICAL REFORM MOVEMENT OF THE LATE 19TH AND FIRST THIRD OF THE 20TH CENTURIES

Abstract. The article carries out a substantive comparative analysis of more than two dozen identified varieties of comparative and personalised works (monographs, dissertations, scientific articles, materials of scientific conferences) on the figures of reform pedagogy of the late nineteenth - first third of the twentieth century. The scientific, theoretical and practical value of this work for the development of national pedagogy and education is determined.

It is shown that scholars did not always take into account the methodological guidelines and requirements for the preparation of this group of studies, which relate to time periods, other features, and comparison criteria. A narrow circle of personalities has been identified as the subject of such studies. These were mainly well-known foreign figures - J. Dewey, Y. Korchak, M.Montessori, R. Steiner, on the one hand, and significant representatives of Ukrainian pedagogical thought - A. Makarenko, S. Rusova, V. Sukhomlynskyi, on the other. Less attractive for study were the dyads of foreign figures, both well-known (J. Decrolli - S. Frenet) and less well-known (Alain - O. Reboul) in Ukrainian pedagogical science.

Two conditionally defined methodological approaches to the preparation of this group of studies are characterised using specific examples. The first one, «mirror-comparative», involves comparing different aspects of biographies and pedagogical systems (identifying similar and different elements of biographies, authorial systems, individual ideas and views in turn). The second «parallel» approach focuses on a comprehensive holistic consideration of first one, then the other pedagogical personality, and then a comparative analysis of their biographies and pedagogical ideas. The advantages and limitations of each approach are determined, as well as the prospects for preparing studies that compare the views of three or more teachers rather than two, as usual.

The scientific, theoretical and didactic significance of such studies for the development of pedagogical historiography and the educational process of Ukraine is summarised.
Keywords: historiography of Ukrainian pedagogical science, pedagogical biography, pedagogical personality, foreign pedagogical reform movement of the late XIX - first third of the XX century, historiographical source.

INTRODUCTION

The problem formulation. The historiography of Ukrainian pedagogical science has accumulated a significant body of research on the representatives of reformist pedagogy of the late XIX – early XX centuries. We distinguish a separate group of works that present a comparative analysis of their biographies and pedagogical views, author's systems with relevant aspects of the life of other prominent figures from abroad and Ukraine. The special subject matter of this study is of scientific relevance and practical significance for the development of national education and pedagogy, as it expands the understanding of pedagogical ideas, methods, technologies that are interesting and productive for the organisation of the educational process and paves the way for another direction of integration into the European educational space and scientific discourse.

Analysis of recent research. Since this article involves a direct consideration of the works of contemporary Ukrainian scholars on the raised issue, we note that there are actually only two comprehensive studies on the historiography of Montessori pedagogy (O. Storonska, 2013) and reformist pedagogy of the late XIX – early XX centuries (Y. Chopyk, 2016). However, in these or other works, there was no substantive holistic analysis of the relatively separate and original group of studies we have identified.

RESEARCH AIM AND TASKS

The purpose of the article is to carry out a substantive comparative analysis of comparative and personalised works on the figures of reform pedagogy of the late XIX – first third of the XX century in order to determine the scientific, theoretical and practical value of this work for the development of national pedagogy and education.

RESEARCH METHODS

The following methods were used in the preparation of the study: general scientific (analysis and synthesis, induction and deduction, generalisation and comparison – to determine its logic and content orientation); interdisciplinary (historical-genetic, historical-structural, retrospective – to determine the dynamics, stages, trends of the historiographical process); partially scientific (content analysis, discourse analysis – to study various aspects of the development of foreign pedagogical thought); historiographical (monographic, analysis of the main body of sources, analysis of knowledge systems – for critical analysis of historical and pedagogical literature and individual works).

RESULTS OF THE RESEARCH

More than two dozen different types of historiographical sources (monographs, dissertations, scientific articles, etc.) of a comparative and personalised orientation have been identified, which compare the life and work of representatives of the reform movement of the late XIX – first third of the XX century and well-known teachers, cultural and educational figures of Ukraine and the world of different eras. The representative studies presented in Table 1 show that the choice of personalities for comparison was primarily determined by the similarity of their pedagogical ideas and views. At the same time, scholars did not always take into account the methodological guidelines and requirements for the preparation of such studies, which relate to time periods and other features and criteria. We also see a rather narrow range of personalities who have been the subject of such studies. On the one hand, these were mostly well-known foreign figures – J. Dewey, V. Korchak, M. Montessori, R. Steiner and prominent representatives of Ukrainian pedagogical thought, on the other – A.Makarenko, S. Rusova, V. Sukhomlynskyi. The dyads of foreign figures, both well-known (J. Decrolli – S. Frenet) and lesser-known (Alain – O. Reboul) in Ukrainian pedagogical science, proved to be less attractive for study.

Table 1

Representative comparative and personalised works on pedagogical personalities of foreign countries and Ukraine [author's elaboration]

Author	Teaching staff	Problem, subject matter
N. Abashkina	A. Makarenko – H. Kershenshteiner	Vocational training in educational institutions
I. Boichevska L. Veremliuk T. Kochubei	V. Lai – K. Ushynskyi	Mental, physical, spiritual development of students; the principle of natural correspondence
V. Vorozhbit V. Smetanina	V. Korchak – V. Sukhomlynskyi	Individual approach to a gifted child
Y. Haida*	Y. Korchak – A. Makarenko	Humanistic education of the individual in the pedagogical heritage
A. Haratyk	Y. Korchak – V. Sukhomlynskyi	Ideas of pedocentrism
S. Denysiuk	V. Korchak – V. Sukhomlynskyi	Ideas of humanism
T. Dovha	Y. Korchak – V. Sukhomlynskyi	Valeopedagogical ideas
O. Ionova	R. Steiner – K. Ushynskyi	Pedagogical views

O. Ionova	R. Steiner – V. Sukhomlynskyi	Pedagogical views
O. Karamanov	J. Decrolli – S. Frenet	Creative ideas in the context of organising museum communication
M. Kargapoltseva	M. Montessori – V. Sukhomlynskyi	Pedagogy of responsibility
V. Kovalenko	J. Dewey – A. Makarenka	Education of students
V. Kovalenko	J. Dewey – S. Rusova	Pedagogical views
V. Kushnir	Y. Korchak – V. Sukhomlynskyi	Humanistic pedagogy
L. Lytvyn	R. Steiner – V. Sukhomlynskyi	Theories of free personality development
V. Morhu	Y. Korchak – A. Makarenko	Features of pedagogical humanism
M. Martianova	Alain – O. Rebul	Pedagogical concepts
H. Milenina*	M. Montessori – S. Rusova	Pedagogical ideas
A. Stepanenko	E. Meiman – V. Lai	The concept of experimental pedagogy
I. Surzhykova*	S. Frenet – V. Sukhomlynskyi	Pedagogical ideas
O. Sukhomlynska	S. Frenet – V. Sukhomlynskyi	Views on education
A. Chernii V. Dolid	R. Steiner – V. Sukhomlynskyi	Pedagogical views

* *Authors of dissertations and monographs*

Given the wide range of topics covered by these studies, we follow the logic of analysing them from the «general» to the «specific» and «particular».

The subject of comprehensive studies was the pedagogical ideas and authorial systems of prominent figures from abroad and Ukraine who lived in approximately the same periods, so their views were formed under the influence of certain ideological trends, but in different social conditions of Western democracy and Soviet totalitarianism. In this vein, we would like to mention the dissertation by I. Surzhykova (2003), who, having carried out a systematic comparative analysis of the stages of life and scientific biographies of S. Frenet and V.Sukhomlynskyi, revealed similar philosophical and social foundations for the formation of their pedagogical worldview, geography and ways of spreading ideas, etc. The researcher has shown that despite living in different state and political systems, they had a lot in common - from social background, family upbringing, working conditions at school, civic activism to support from their wives and a wide circle of followers. Despite their similar understanding of the role of the social environment in the formation of a child's personality, their philosophical credo differed. From these perspectives, the common and special in the scientific systems of the figures is revealed by certain features (goals of education; the role of work in this process; principles and approaches to moral, civic, aesthetic, physical education; the role of parents, etc.) and the components of their pedagogical technologies are structured and compared (Surzhykova, 2003).

In contrast to the aforementioned mirror image of various aspects of the biographies and pedagogical systems of the personalities, H. Milenina tested a «parallel» approach to the comparative analysis of the pedagogical ideas of S.Rusova and M. Montessori. The author alternately highlighted the life paths of one and the other figures, then characterised their concepts of national education and the system of education and personal development. On this basis, the «common and different» in the author's pedagogical systems will be revealed and their components will be actualised in the modern educational process (Milenina, 2015).

Each of these approaches has its advantages and limitations. In our opinion, the first «mirror-comparative» approach is somewhat more productive, as it allows us to emphasise and show the commonalities, especially in the life stories of the studied personalities and the formation of their views and individual components of their pedagogical systems. An important advantage of the «parallel» approach is the possibility of a holistic presentation and comparison of the pedagogical ideas of scientists, abstracting from their «secondary» aspects.

In contrast to the two referenced works, the Polish researcher Y. Haida in her dissertation defended in Ukraine did not resort to a detailed comparison of the biographies of Y. Korchak and A. Makarenko, but identified three similar periods of their formation as humanist teachers (childhood; choice of life path, beginning of pedagogical work, formation of ideological views; testing and improvement of pedagogical systems). Having analysed more than 150 works by Polish and Ukrainian figures, the author has shown the similarity of their educational systems, which were based on the principles of dynamism, openness, self-organisation and reflected a similar understanding of the principles of democracy and self-management of the functioning of the team, the priorities of developing individual capabilities and self-actualisation of the child; approaches to the organisation of production and economic activity, etc. In general, we can also agree with the identified analogues regarding the functioning of children's institutions created by teachers and their understanding of the problem of pedagogical skills (Haida, 2004). Focusing on identifying the «similarities», the researcher did not pay due attention to the differences in the views of the studied personalities. The comparison of the «democratic» and «humanistic» principles of their pedagogical systems is also quite controversial.

In terms of comparison with the above study, we note the works of V.Kushnir, who compared the pedagogical concepts of Y. Korchak and V.Sukhomlynskyi (2004; 2020). Based on the causal and genetic determination of similarities and differences in biographies (they lived and worked in different periods and social conditions), the author emphasises that the figures belong to the same humanistic direction – «pedagogy of the heart». Based on the analysis of the creative heritage, the author shows the common (understanding of childhood as a holistic system and a self-sufficient period of life; socio-pedagogical support for self-development of the individual; «therapeutic pedagogy») and special (approaches to the ontogeny of the child and the education of «low-ability»; understanding the role of the teacher in the relationship with the child, etc. (Kushnir, 2020).

The content analysis of the dissertations of I. Surzhykova, Y. Haida, and V.Kushnir revealed that when comparing certain personalities, in particular, Y.Korchak and V. Sukhomlynskyi, with other figures from different perspectives, new facets of their authorial systems are revealed, the horizons of understanding these phenomena and their role and significance in the development of pedagogical thought are expanded.

The above also applies to the article materials that reflect certain aspects of the pedagogical systems of the personalities who were the subject of comparative analysis. In particular, we would like to note the discussion paper by V. Morhun with the eloquent title «Paradoxes of Pedagogical Humanism, or How to Love Children According to Anton Makarenko and Yanush Korchak». By comparing their views in the «transcultural educational dialogue,» the author showed that the secret of Makarenko's success, who «imitated Korchak's humanism,» is due to three «secrets»: «All the best for children»; «As much respect and demand for the child as possible»; «Age segregation», when 25-30 peers study under the guidance of teachers «distant in age». Arguing that these features distinguish their «innovative pedagogy from the traditional one», the author proves that despite the different attitudes to Makarenko's figure, his «folk labour pedagogy» has a significant educational potential that is not used in modern educational institutions of Ukraine (Morhun, 2013).

According to our observations, scholars prepare this kind of research from the point of view of comparing the personalities who were the main subject of their research with well-known teachers who have similar scientific views. As an example, let us note the works of the aforementioned researcher of Waldorf pedagogy O. Ionova, who compares the pedagogical views of R. Steiner with the ideas of K. Ushynskyi (Ionova, 1999) and V. Sukhomlynskyi (Ionova, 2004). In the first case, the researcher focused on finding out what is common and special in the anthroposophical views of the figures, which relate to the understanding of the essence of education as a process of comprehensive human development with its needs for self-development, self-actualisation, and realisation of creative potential, which is realised through the internal determinants of social personal growth. These aspects of creativity prompted Steiner and Ushynskyi to align educational tasks with the natural development of the child and to find ways to optimise the educational process to unlock its potential.

According to O. Ionova, the implementation of Waldorf approaches in the national school should be based on our own national experience, in particular the practice of V. Sukhomlynskyi's «School of Gladness». From this perspective, its «spiritual kinship» with the author's system of R. Steiner, who professed the desire for freedom; knowledge of the nature of the child as the goal, the meaning of education; understanding of the age-related peculiarities of personality formation, because for a child the world is first good, then beautiful, and then true, because it is a work of art (Ionova, 2004).

It is interesting to compare this reflection with the study by A. Chernii and V. Dolid, which relays six common features in the approaches to education promoted by V. Sukhomlynskyi and R. Steiner, identified by the Australian scientist A. Cockerill. These are: a view of education as a system of activities aimed at developing the child's intellect, moral and physical qualities; a view of the teacher as a mentor combined with the responsibility of the teaching staff for each child; the need to study each student to support personal development and connections with his or her family; involvement of children in the educational process, particularly in primary school, at the emotional level («sense of wonder») through fairy tales, games, art, physical activity; ensuring the child's relationship with nature as an emphasis on its. The authors illustrate these theses with examples from the work of these teachers (Chernii, & Dolid, 2019). In terms of the discourse on comparing the concepts of R. Steiner and V. Sukhomlynskyi, we should also note the view of L.Lytvyn, who highlighted their new facets through the prism of the theory of free education of the individual (Lytvyn, 2010).

We perceive the scientific and didactic significance of such studies in that they reveal the diversity of views of scholars, including foreign and Ukrainian, on the common and special in the work of prominent teachers and enrich national historiography with such scientific experience.

In this context, let us note the so far rare receptions that compare the pedagogical systems of foreign personalities in their entirety or in certain aspects. As an example, let us note two studies by M. Martianova. The first one draws parallels between the pedagogical views of French educators E.-O. Chartier (Alain) and O. Reboul on the formation of personal attitudes as fundamental skills of students, etc. Their positions on a wide range of issues related to the definition of theoretical approaches and the choice of methods of education and training are revealed (Martianova, 2020).

We should also highlight M. Martianova's research, which compares the views of not two, as usual, but three well-known teachers – S. Frenet, M.Montessori and Alain. Noting their search for ways to improve education and upbringing of the growing generation in accordance with social requirements, the scientist identified the main components of the teacher's activity according to Montessori (creation of a creative environment; ability to interest and observe the work of students, etc.), the main elements of the pedagogical model of Frenet (motivation of interest in learning, etc.) and the essence of Alain's idea of the dual function of education (preparation for present and future difficulties). By comparing these concepts of scientists, the author identified the common principles of learning inherent in them regarding the combination of freedom and discipline, the creation of a favourable environment, the development of mentoring, performance, etc. We believe that this practice of «three-dimensional comparison» makes sense and should be more actively implemented by Ukrainian comparative biographers.

The latter also applies to narrowly thematic studies, such as the research by O. Karamanov, who highlighted the creative ideas of reformist educators J.Decrolli and S. Frenet, which are in line with the development of modern museum pedagogy.

According to the author, they are manifested in the organisation of educational communication and the use of elements of museum didactics in the educational process of the school through the involvement of students in creative work in the museum space (Karamanov, 2018).

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

To sum up, in the accumulated array of various works about the figures of the reformist pedagogical movement of the late XIX – first third of the XX century, a separate original group of studies stands out, which compares their pedagogical ideas and author's systems with the relevant aspects of the creative heritage of other representatives of foreign and Ukrainian pedagogical thought. These publications are of scientific, theoretical, and practical interest in the methodological, content, and other aspects of the development of pedagogical science and the organisation of the educational process, as they expand the understanding of the author's ideas and systems of the studied personalities and identify and design opportunities to use their pedagogical experience to improve the educational process in Ukraine.

We see prospects for further research in the study of other aspects of historiography about the figures of the reform movement, in particular, in the form of works on their collective biographical portraits; personalised studies of their lives and work, and works on individual personalised areas of pedagogical science in the form of Montessori studies, phrenopedagogy, and Steiner pedagogy.

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ФОРМУВАННЯ НАЦІОНАЛЬНО-КУЛЬТУРНОЇ ІДЕНТИЧНОСТІ ОСОБИСТОСТІ У ЗМІСТІ ШКІЛЬНОЇ ІСТОРИЧНОЇ ОСВІТИ: ПОЛІКУЛЬТУРНИЙ ПІДХІД

Анотація. У статті здійснено вивчення та аналіз філософсько-культурологічної, соціально-психологічної і педагогічної літератури та інтернет-ресурсів із досліджуваної проблеми; схарактеризовано сутність національно-культурної ідентичності зростаючої особистості у змісті шкільної історичної освіти за умови застосування полікультурного підходу як інтегративної категорії; виокремлено провідні внутрішні (суб'єктивні) і зовнішні (об'єктивні) чинники процесу формування національно-культурної ідентичності зростаючої особистості у змісті шкільної історичної освіти у межах полікультурного підходу. Схарактеризовано зовнішні чинники: ідеологічно-стратегічний, інформаційно-маніпулятивний, релігійний історичної достовірності і справедливості, які забезпечують об'єктивне висвітлення історії, культури, традицій і вірувань українців та народів, які споконвічно спільно проживають разом в Україні за обов'язкової широкої популяризації їхніх спільних історичних і соціальних надбань.

З'ясовано, що сформована національно-культурна ідентичність особистості є єдністю трьох складових: сформованого почуття приналежності до свого етносу, свого народу, любові і поваги до своїх національних традицій та історії свого народу, прагнення оволодіти своєю національною мовою та національною культурою; сформованого почуття приналежності до багатонаціонального українського суспільства, патріотизм, неодмінно пов'язаний з відмовою від національного (етнічного) марнославства; сформованого почуття приналежності до світового (і європейського як його частини) співтовариства, почуття відповідальності не лише за долю свого народу та своєї багатонаціональної країни, а й усього світу.

Ключові слова: формування, національно-культурна ідентичність, полікультурний підхід, зміст шкільної історичної освіти, учень/учениця, зростаюча особистість, чинники.

THE FORMATION OF NATIONAL AND CULTURAL IDENTITY IN SCHOOL HISTORY EDUCATION: A MULTICULTURAL APPROACH

Abstract. The article examines and analyses philosophical, cultural, socio-psychological, and pedagogical literature, as well as Internet resources, related to the research problem. It characterises the essence of national-cultural identity in the context of school history education, considering the multicultural approach as an integrative category. Additionally, it identifies the key internal (subjective) and external (objective) factors involved in forming the national-cultural identity of a growing personality within the framework of school history education. The author characterises the external factors: ideological and strategic, information and manipulative, and religious of historical accuracy and justice, which ensure objective coverage of the history, culture, traditions and beliefs of Ukrainians and nations that have been living together in Ukraine since time immemorial, with the obligatory wide popularisation of their common historical and social achievements.

It has been determined that a developed national and cultural identity in an individual is a unity of three components: a sense of belonging to their ethnic group and people, characterised by love and respect for their national traditions and the history of their community, as well as a desire to master their national language and culture; a sense of belonging to the multicultural Ukrainian society; and patriotism, which is inherently connected with the rejection of national (ethnic) vanity; a sense of belonging to the global community (including the European community as part of it), as well as a sense of responsibility not only for the fate of their people and their multinational country but also for the entire world.

Keywords: formation, national and cultural identity, multicultural approach, content of school history education, student, growing personality, factors.

INTRODUCTION

The problem formulation. Today, Ukrainian education, as a form of social consciousness, is tasked with fostering new life meanings and values in the younger generation as the foundation for shaping patriotic citizens. These citizens should be prepared to selflessly contribute to building a sovereign, independent, democratic, and lawful Ukrainian state, strengthening its national security, and promoting civil peace and harmony in society. Therefore, the problem is particularly relevant «the formation of the national and cultural identity of children and youth as a crucial condition for the consolidation of Ukrainian society, its security, and development in the face of globalization challenges. The formation of national and cultural identity fosters the development of a citizen-patriot of Ukraine who recognises their belonging to the Ukrainian people, their involvement in the country's destiny and its role in the global community. This individual is also a bearer of Ukrainian culture and language, preserves historical memory, values culture and traditions, and is ready to defend and build Ukraine as a sovereign and independent state» (Kremen, 2021, p. 67).

Nowadays, multicultural education is an important component of the national education system, as demonstrated by the regulations of the National Doctrine of Education Development in Ukraine in the XXI century, which states «...the need to educate a person with a democratic outlook, who respects civil rights and freedoms, and who respects the traditions, culture, religion, and language of communication of the peoples of the world» (Decree of the President of Ukraine «National Doctrine of Education Development in Ukraine in the XXI century» No. 347/2002, 2002, p. 4).

In particular, the content of the «State Standard for Basic and Complete Secondary Education» also emphasises the mandatory integration of multiculturalism into pedagogical practice. The implementation of these ideas creates the preconditions for the comprehensive development of the individual, the acquisition of both universal and national values, their significance for the social formation of a person, the humanisation and democratisation of school education, mutual respect among nations and peoples, and the secular nature of the school (State Standard of Basic and Complete Secondary Education, 2020).

Consequently, the formation of a modern individual – a citizen and patriot of a sovereign state with a developed national and cultural identity – represents one of the most important educational tasks, the implementation of which should be an integral part of school history education.

AIM AND TASKS RESEARCH

The purpose of the article: based on the analysis of literature and online resources, to characterise the essence of national and cultural identity in a developing individual as an integrative category within the content of school history education, viewed through a multicultural approach.

Analysis of recent research. The foundational scientific research of European historians, particularly R. Mayer, W. Mędrzecki, and R. Stradling, is focused on addressing the issues of multiculturalism. R. Starling highlighted the issue of diversifying content and expanding the range of sources, which would make history teaching less monocultural and more multidimensional and universal.

The study of multiculturalism in educational content and the development of a model of multicultural education as a social innovation, set within the context of real intercultural interaction processes, is the result of scientific research by H. Abibullaeva, P. Verbytska, O. Kalakur, P. Kendzor, V. Kremen, P. Saukh, O. Sukhomlynska, and others.

The study of the methodological aspects of implementing a multicultural approach in the content of educational subjects, particularly in school history education, is covered in the scientific works of K. Bakhanov, S. Kostylieva, V. Kryshmel, Yu. Maliienko, T. Matseikiv, P. Moroz, I. Moroz, M. Mudryi, T. Remekh, O. Sakhnovskyi, and others.

According to I. Bekh and K. Zhurba, the formation of national and cultural identity should be grounded in historical truth, historical memory, national ideals, national dignity, national identity, and patriotism (Bekh, Zhurba, 2017, p. 25).

At the same time, T. Potapchuk emphasises that education and upbringing in educational institutions should focus on developing the key components of national and cultural identity in a growing individual. Thus, they should foster awareness that people belong to a specific cultural community, possess national values, and understand the dialectic of cultural development among all ethnic groups living in Ukraine (Potapchuk, 2012, p. 89).

RESULTS OF THE RESEARCH

The analysis of recent research and publications reveals the multidimensionality of the concept of «multiculturalism» and its derivatives and substantiates the connection between multiculturalism as a phenomenon in modern Ukrainian society and a cross-cutting approach to forming the concept of «national and cultural identity» in the context of applying a multicultural approach in the process of teaching school history. In this context, multiculturalism, as a socio-cultural phenomenon, is difficult to define unambiguously, according to Yu. Maliienko. Multiculturalism in school history education is a methodological approach to shaping educational content, a defining characteristic of the cross-cutting phenomenon in Ukrainian history from ancient times to the present, a requirement of the modern globalized society, and a result of cultural interaction. Additionally, multiculturalism can be viewed both as a starting point in history education and as its outcome (Maliienko, 2020, p. 124).

Meanwhile, the body of knowledge about Ukraine, Ukrainians, its history, culture, art, and the contributions of prominent Ukrainians to the development of the state over the centuries, along with the communication and intellectual cooperation between students and teachers in mastering the content and essence of historical phenomena and events, should be framed within the Ukraine-cantered and child-cantered educational paradigm. Intersubject connections in school history education should be built and expressed through national-patriotic education processes, which aim to foster a stable national and cultural identity, moral and ethical characteristics as a citizen and patriot, civic responsibility, and a set of essential humanistic values and value orientations.

Today, however, we must focus on the challenges and threats that have emerged since Russia's full-scale aggression against Ukraine, which highlight the need to address their consequences in the content of national education, particularly in education of young individuals. In these processes, it is crucial to consider that the need for a growing individual to make choices and understand the essence of their national and cultural identity primarily arises from changes in the social situation, which creates the need to adapt to new social conditions and find a specific place (status, role) in the social environment. Thus, changes in specific external circumstances and factors significantly contribute to the formation of such an identity, as a person cannot psychologically remain attached to their previous identity. The highest form of self-regulation is self-determination, i.e., the ability to act unpredictably from the perspective of an external observer, but consciously and consistently from within, within the boundaries of one's «psychological self», «social self», and «physical self». In this case, the leading internal (objective) factor in forming the national and cultural identity of a growing individual is national self-identification, which is reflected in the feelings that the individual regards as the value 'I am a Ukrainian. The nature of these feelings and values, according to K. Zhurba, is «in the effective involvement of the individual in their nation, in the broadest sense of the term». The individual must embrace the historical legacy of the nation's highest spiritual achievements, live and act based on them, and contribute to their multiplication, while considering the challenges of the present time» (Zhurba, 2017, p. 5).

Having already described the role of external factors in the formation of identity as part of an individual's overall developmental process, it makes sense to highlight those factors addressed in the content of school history education during the formation of national and cultural identity. Among these external (objective) factors, some of the most important are:

- An ideological and strategic factor, aimed at maximizing the elimination of ideological influence from other states, primarily Russia. Since all its ideological efforts are focused on identifying and recruiting individuals, primarily young people, who are willing to betray Ukraine's interests. In this context, we must reconsider the opinion expressed by the French writer and publicist Alphonse Jean Carr, who stated that «…for most of these people (especially the Russians), the meaning of life is not to rise to the level of others, but to bring others down to their level». The existence of these problems is caused by the processes of changing existing values, goals, principles, and, accordingly, the structures and components of modern education, which are not yet fully developed. Under these conditions, defining and adopting a strategy at the state level for the formation of a patriotic individual within the national education system remains problematic. First and foremost, this is a consequence of the crisis in the diversity of goals and objectives in modern education in general, and in school history education in particular. These processes are primarily due to the lack of a clear and consistent approach to integrating education into modern Ukrainian society, where the mission and purpose of the teacher remain unclear, as it is uncertain what outcomes education should produce. Hence, the value-semantic inconsistency, uncertainty in the choice of goals and methods for solving educational problems by its participants, and differences in their positions are, in turn, linked to the foundations of building and understanding the country's future development (Abibullaeva, 2006);
- An information and manipulative factor that significantly influences the consciousness of children and youth through the media and various platforms, aiming to undermine the internal political situation, foster disrespect for the historical and cultural heritage of the Ukrainian people and other ethnic groups in Ukraine, and weaken support for the national idea. And what are the current issues in the content of school history education today;
- The religious factor, which unfortunately remains a powerful influence on Ukrainian society, particularly on young people who are in the process of defining and accepting their national and cultural identity. In this context, the dangerous propaganda by the churches of the Moscow Patriarchate, which spreads false and distorted facts about the history, culture, faith, and traditions of the Ukrainian people, is a significant issue (Kryshmarel, 2018);
- The value-orientation factor, which significantly impacts the quality of the processes involved in forming an individual's national and cultural identity, since values, from the perspectives of philosophical, cultural, socio-pedagogical, and psychological-pedagogical paradigms, as well as modern methodological constructs in educational theory, are inherent to a particular social subject or phenomenon. In terms of content, they should primarily meet the needs, interests, and desires of both individuals and groups. Nevertheless, certain values remain unquestionable, such as goodness, justice, patriotism, love, and friendship. In addition, these values can serve as an ideal in the lives of children and young people, as their development helps to characterize the leading qualities of a growing personality. In the process of forming a growing individual at each stage of ontogenesis, I. Bekh states that «…certain moral norms and value orientations are formed, gradually becoming more complex and eventually acquiring the features of a system of norms or values accepted in contemporary Ukrainian society» (Bekh, 2007, pp. 7–16).

Accordingly, the content of school historical education today is designed to cultivate citizens who are patriots of Ukraine, equipped to face the challenges and threats of modern Ukrainian society. These individuals should possess a strong national consciousness and be «…capable of building a civil society based on universal and European values» (Concept of National and Patriotic Education in the Education System of Ukraine, No. 586, 2022).

- historical accuracy and justice. This factor plays a leading role in shaping the content of school history education. Today, it is important to provide an objective account of the history, culture, traditions, and beliefs of Ukrainians, as well as those of the peoples who have lived together in Ukraine since time immemorial. Additionally, there should be a strong emphasis on widely promoting their shared historical and social achievements (Kalakura, 2013).

Moreover, it is extremely important, while adhering to historical accuracy and justice, to present in the content of school history education the events and phenomena of past years and centuries, and to apply historical concepts, among which, according to O. Udod, their essential characteristics should be clearly and understandably formulated. Such as: «genocide», «ethnocide», «expulsion», «deportation», «annexation», «aggression», «capture», «accession», «unification», and so on. This should also include tolerance in assessments and the ability to identify the true causes of conflicts without fostering an «enemy image» or promoting national or religious intolerance (Udod, 2009).

The practical implementation of these tasks currently underpins out-of-class and extracurricular activities in the field of school history education. This includes organising various thematic mass events, such as evening programmes for primary and high school students, meetings with writers or poets, tributes to prominent Ukrainians, and competitions in historical, ethnographic, and local history student creative works. Other activities involve researching genealogy, local folklore, and the history of the native land, among others. Each of these events can have a different name and theme, such as the Days of Ukrainian Writing and Language, Native Language Evening, literary and musical compositions dedicated to the birthdays of Taras Shevchenko, Lesia Ukrainka, Ivan Franko, as well as themes like My Family Tree, My Native Land, Its History and Modernity, and so on.

In the current context, forming a person's national and cultural identity through extracurricular and co-curricular activities requires integrating historical events and their consequences – thoroughly studied in school history education – into the content of various activities. These include military sports competitions, contests, educational events, and the work of clubs like «Young Historians of Local Lore», which aim to build the readiness of young people to defend the Motherland. For example: «Moloda Sich», «Horting», «Defence of the Motherland Is a Sacred Duty of a Citizen», «We Are Glorious Descendants of Zaporozhian Cossacks», «Ukrainian Army: In History and Modernity», «Defenders' Day», «In Memory of the Heavenly Hundred Heroes», patriotic flashmobs like «United Ukraine», planting the «Heroes Memory Alley», and meetings with fighters of the Russian-Ukrainian war, among others.

Historical, cultural, and patriotic activities hold a special place in fostering national and cultural identity through school history education. These activities are primarily based on studying the history and traditions of the Ukrainian army, including key events such as the times of Kyivan Rus and the Cossacks, the Battle of Kruty, the OUN, the UPA, the Second World War, the dissident movement, the student Revolution on Granite, the Orange Revolution, and the Revolution of Dignity. They also highlight the sacrifices made by our compatriots in defending the Motherland in eastern Ukraine and Crimea.

Effective means of fostering the national and cultural identity of students in the context of the Russian-Ukrainian war include expanding opportunities for communication in Ukrainian, gaining access to authentic information, developing critical thinking, building national consciousness and self-confidence, fostering national dignity, combating manifestations of national inferiority, and promoting education based on national values (Boiko, 2022, p. 20).

Considering this, the issue of forming the national and cultural identity of young individuals is particularly relevant, given the profound transformations in Ukrainian society and the state, which have brought about significant changes in social reality. Therefore, socio-cultural transformations inevitably lead to a certain crisis in the formation of national and cultural identity. The primary negative factor in this process is the pronounced crisis of civic identity (Halushko, 2008, p. 112).

At the same time, in the current context, the formation of students' national and cultural identity is marked by an understanding among developers of school history education content of the importance of a broad range of unifying values and value orientations. These are rooted in the principles of patriotism, spirituality, humanism, and the pivotal role of culture in shaping a modern, multicultural civil society within the state. This approach to designing the content of school history education ensures the nation's stability both today and in the future by fostering a strong and lasting national and cultural identity in students, even amidst modern multicultural influences. In this context, the characteristic features and attributes of national and cultural identity are its inherent complexity in both the processes of its formation and manifestation. Such processes, given the multicultural approach to designing the content of school history education, exist at the intersection of ideological, national-historical, political-cultural, socio-cultural, socio-psychological, and purely pedagogical paradigms. Nevertheless, the stability of a growing individual's national and cultural identity is reinforced by well-formed concepts and comprehensive historical knowledge about the past and present.

Thus, we can state that a formed national and cultural identity consists of three interconnected components. The first is a sense of belonging to one's ethnic group and people, encompassing love and respect for national traditions, history, and a desire to master the national language and culture. The second is a sense of belonging to the multinational Ukrainian society, marked by patriotism that inherently rejects national (ethnic) arrogance. The third is a sense of belonging to the global community (and Europe as part of it), alongside a sense of responsibility not only for the nation and its multicultural state but also for the world. (Bekh, Dokukina, Fedorenko, Shkilna, Zhurba, 2019; Sarakula, 2024, pp. 143–149).

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

In summary, the analysis of the research problem highlights the integrative nature of the phenomenon of «national and cultural identity of the individual». This concept is reflected in the content of school history education through the adoption of a multicultural approach. The process of shaping an individual's national and cultural identity, within the framework of a multicultural approach to designing school history education, incorporates the key paradigmatic constructs of the modern national education system. The sustainability of a growing individual's national and cultural identity is reinforced by well-formed ideas and comprehensive systemic historical knowledge about the past and present. In turn, the teacher's role in school history education should focus on fostering the development of a young personality, recognising the child as the highest value and operating on the principles of humanism, freedom, and social justice.

Prospects for further research include the systematic study of pedagogical conditions and the development of a structural and functional model for effectively shaping the national and cultural identity of a growing personality. This would be achieved within the framework of extracurricular and co-curricular activities focused on historical, local history, and ethno-historical orientations.

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ОСОБЛИВОСТІ АДАПТАЦІЇ СИСТЕМИ ПРОФЕСІЙНОЇ ОСВІТИ В УМОВАХ КОНФЛІКТУ: ДОСВІД ІЗРАЇЛЮ

Анотація. Медсестринська освіта в умовах збройних конфліктів вимагає швидкої адаптації та впровадження інноваційних стратегій, що забезпечують безперервність навчального процесу та підвищують рівень підготовки медичних працівників. У статті розглядається досвід Ізраїлю в адаптації медсестринської освіти під час збройних конфліктів, де активно використовуються дистанційне навчання, симуляційні центри та мобільні класи. Ці стратегії не лише дають змогу зберігати теоретичну підготовку, але й уможливлюють розвиток практичних навичок у реальних бойових умовах. Ізраїль також активно співпрацює з міжнародними організаціями для удосконалення навчальних програм, надаючи особливу увагу психологічній підтримці медичних працівників у кризових ситуаціях.

Підкреслено важливість запозичення цих стратегій для України, зокрема за умов поточного збройного конфлікту. Упровадження інноваційних підходів, таких як дистанційне навчання та симуляційні центри, уможливлюють забезпечити безперервність медичної освіти навіть під час активних бойових дій, а також підвищити здатність медсестер діяти в умовах бойових та екстремальних ситуацій.

Окреслено напрями подальших досліджень, які можуть сприяти розвитку медсестринської освіти за умов війни. Це дослідження впливу новітніх технологій на навчальний процес, розробка ефективних психологічних стратегій підтримки медичних працівників, а також вивчення міжнародної співпраці в підготовці медсестер. Окрему увагу варто звернути на адаптацію навчальних програм після завершення конфліктів та підготовку медсестер до роботи за умов гібридних конфліктів.

Досвід Ізраїлю є важливим прикладом для України, оскільки може допомогти розвивати медсестринську освіту, адаптуючи її до вимог сучасних воєнних умов, і забезпечити стійкість медичної системи під час екстремальних ситуацій.

Ключові слова: медсестринська освіта, збройний конфлікт, інноваційні стратегії, дистанційне навчання, симуляційні центри, психологічна підтримка, міжнародна співпраця.

PECULIARITIES OF PROFESSIONAL EDUCATION SYSTEM ADAPTATION IN CONFLICT CONDITIONS: THE EXPERIENCE OF ISRAEL

Abstract. The article explores the adaptive strategies employed by Israel's nursing education system during armed conflicts and emergencies. Israel has a well-established tradition of maintaining high standards of medical education, even in times of war, owing to the country's long history of regional conflicts and security challenges. The research highlights how Israel ensures the continuity of nursing education during these crises through innovative methods, including distance learning, simulation centres, and mobile classrooms. The study emphasizes the integration of theoretical knowledge with practical skills, preparing nursing professionals to effectively work in extreme conditions such as combat zones and crisis situations.

The article outlines the historical development of nursing education in Israel, from its early stages under the British Mandate to the modern era characterized by technological advancements and flexible educational strategies. The analysis shows that Israel's nursing schools adapt their curricula to reflect the evolving needs of the healthcare system during times of war, ensuring that nurses are well-equipped to handle the challenges of combat care and emergency medical responses. The use of simulation technologies and mobile learning platforms has proven essential for maintaining educational continuity during periods of conflict, allowing students to continue their studies even when physical presence in educational institutions is not feasible due to security threats.

Additionally, the article discusses Israel's collaboration with international medical organizations to enhance the quality of nurse training, the importance of psychological support for nurses working in high-stress environments, and the rapid restoration of educational processes following conflicts. The study concludes by highlighting the need for similar adaptive strategies to be adopted in other countries facing conflict, including Ukraine. These strategies, such as the use of distance learning and simulation technologies, could significantly improve the resilience of nursing education systems in crisis conditions. Further research is recommended to assess the integration of new technologies into nursing education, the development of psychological support strategies, and the evaluation of international cooperation in preparing healthcare professionals for wartime operations.

Keywords: Nursing education, armed conflict, innovative strategies, distance learning, simulation centres, psychological support, international cooperation.

INTRODUCTION

The problem formulation. Israel has a long and profound history of maintaining high standards of medical education, including nursing, even during the most difficult times of war and armed conflicts. In the context of constant threats from regional conflicts and terrorist attacks, Israel continues to demonstrate the resilience and adaptability of its medical system. This not only ensures the preservation of high-quality medical services during crisis moments but also supports the education of new generations of healthcare workers, who later treat the wounded in armed conflicts.

Israeli medical institutions, including nursing schools, have a well-established system that allows them to maintain a stable level of staff training, even in emergency conditions. Nursing and medical training in Israel is based on the integration of theoretical knowledge and practical skills, which is crucial for effective work in real combat conditions. Moreover, the country's medical institutions actively adapt their educational programs, particularly in nursing, to the specifics of military operations to prepare specialists who can act under extreme stress and high risk.

Given the constant challenges faced by the country, these measures are an important component of the national strategy for ensuring medical security and resilience. Israel, with its experience, is one of the leaders in developing adaptive medical education strategies that guarantee high levels of training, even in times of war or crisis situations. In this context, it is important to highlight the close cooperation between medical institutions, the government, and international organizations to develop new approaches to the training of healthcare workers, which meet the demands of modern conditions and society's needs.

Analysis of recent research and publications. Research on the development of education in Israel covers various aspects of the country's educational system. O. A. Durmazoglu analyses the main components, achievements, and experience of Israel in organizing the school educational process during wartime (Durmazoglu O. A., 2022). O. V. Martynchuk examines the professional activities of special education teachers in inclusive educational institutions in Israel (Martynchuk O. V., 2018), while O. V. Kompaniiets focuses on the system of non-formal education, which is actively developing in the country (Kompaniiets O. V., 2017). H. Y. Mykhailyshyn and L. O. Mandro study the development of "soft skills" in the Israeli education system, emphasizing creativity, motivation, and leadership in the learning process (Mykhailyshyn H. Yo., 2021). A. V. Fastivets explores the training of physiotherapy and occupational therapy specialists in Israel (Fastivets A. V., 2021). However, despite the considerable amount of research on higher education, nursing education in Israel remains underexplored and requires further academic development.

AIM AND TASKS RESEARCH

The aim of this article is to analyse the adaptive strategies of nursing education in Israel in the context of armed conflicts and emergencies, as well as to identify the main measures that ensure the continuity of the educational process and the maintenance of high standards of medical staff training, including nurses, during war. The objectives of the article are as follows: 1) to study the main measures Israel applies to ensure a stable level of nursing education during conflicts and crisis situations; 2) to analyse the role of distance learning, simulation centres, and mobile classrooms in adapting nursing education during wartime; 3) to assess the impact of war and armed conflicts on the structure and content of nursing programs in Israel; 4) to examine mechanisms for restoring the educational process after conflicts and adjusting training programs to account for combat experience. These objectives will provide a comprehensive overview of key aspects of nursing education in Israel in the context of conflict and war and help understand how the country adapts its education systems to extreme conditions.

RESEARCH METHODS

A range of different methods have been used to analyse the adaptive strategies of nursing education in Israel, allowing a detailed examination of how the country adapts its educational system to the conditions of armed conflicts. The main methods include: 1) document and literature analysis (the article examines various sources that describe the specifics of nursing education in Israel, its adaptation to wartime and crisis conditions, as well as practical aspects such as the use of simulation centres and mobile classrooms. This allows for a comprehensive picture of the adaptation of medical training programs in conflict situations); 2) comparative analysis (the article compares Israel's experience with international practices in medical education during armed conflicts, particularly in terms of cooperation with international organizations and other countries. This allows for an assessment of the innovative approaches applied in Israel and their integration into the international context); 3) qualitative approach (studying the impact of stressful situations on medical workers and the importance of psychological support during wartime is a key aspect of the article. This approach assesses not only the technical aspects of nursing education but also the emotional and psychological factors that affect the effectiveness of nurses' work during armed conflicts). The use of these methods provides a comprehensive evaluation of the adaptability and resilience of Israel's nursing education system during wartime, armed conflicts, and emergency situations, offering a broad view of the measures aimed at supporting the continuity of the educational process.

RESULTS OF THE RESEARCH

The historical development of nursing education in Israel is an essential part of the overall evolution of the country's medical education, as training qualified nurses is fundamental to providing effective healthcare. Understanding how nursing education in Israel has adapted to the changes within the country helps assess its current achievements and identify best practices that could be applied in other countries, particularly in conflict situations. The historical context allows us to observe how the demands on nursing education have evolved over time, what approaches were introduced, and how significant challenges, including wars and crises, have influenced its development. Therefore, let us consider the stages of nursing education development in Israel:

1. First stage (Pre-1948). The first attempts to organize nursing education in Israel occurred during the British Mandate over Palestine. Nursing training was primarily concentrated in medical schools opened by Jewish organizations, such as Histadrut. During this time, nurses received basic training, including patient care, wound treatment, and hygiene basics.

2. Second stage (1948-1970). After the establishment of the State of Israel in 1948, nursing education expanded significantly and became more professionalized. New nursing schools were established, and curricula were adapted to include modern methods of care and treatment, healthcare management, and preparation for working in wartime conditions. The development of nursing schools occurred in large cities such as Jerusalem and Tel Aviv, where innovative teaching approaches, including first aid and emergency care, were actively introduced (Bentwich J. S., 1998).

3. Third stage (1970-2000). This period was marked by significant advancement in nursing education in Israel. In addition to theoretical knowledge, nurses began to receive deeper practical training, particularly in specialized fields such as intensive care, paediatrics, and emergency medical care. New programs were introduced to prepare nurses for working in challenging environments, including combat zones. Furthermore, master's degree programs for nurses began to develop, allowing them to deepen their knowledge and professional skills.

4. Fourth stage (Post-2000). The current stage of nursing education development in Israel is characterized by the integration of cutting-edge technologies into the educational process. Simulation trainers, online platforms for distance learning, and other innovative methods are actively used, allowing nurses to be trained even in the most challenging conditions. Training programs have become more flexible, considering the challenges associated with emergencies and armed conflicts. Greater attention is given to interdisciplinary training, especially in collaboration with international organizations and other countries, which ensures that Israeli nurses are prepared for any conditions and situations (Arar Kh., 2016).

These stages reflect the continuous development of nursing education in Israel, which adapts to changing conditions and needs, as well as to the modern challenges facing the healthcare system, particularly in the context of war and crisis situations.

One of the most significant measures for ensuring the continuity of nursing education in Israel is the implementation of adaptive teaching strategies, which allow the educational process to continue even during periods of crisis. In the case of military conflicts, missile attacks, or natural disasters, Israel does not halt the education of nurses but applies innovative approaches to ensure both theoretical and practical training of future medical professionals. One such approach is distance learning, which is actively used during crises. Thanks to a well-developed online education infrastructure, Israeli medical institutions have created platforms for online classes that allow students to continue studying theoretical subjects, even when physical presence in educational institutions is impossible due to security threats. Students have access to lectures, seminars, and training sessions through online platforms, while instructors use video conferencing and digital materials to ensure high-quality education even in the most challenging conditions, such as missile strikes or evacuations. This enables the education process to be maintained and ensures the continuity of learning regardless of external circumstances.

Another important element is simulation centres, which play a key role in the practical training of nurses during combat and other crisis situations. These centres are set up in military hospitals and medical institutions, and their activities are indispensable in wartime. They offer opportunities for practical exercises where students can practice skills such as providing first aid, performing surgical procedures, or applying medical techniques in conditions that closely resemble real combat operations. Simulation centres use modern technologies such as mannequins with various clinical scenarios, video training, and virtual reality to provide a realistic experience. During military conflicts, these centres intensify their activities, engaging more students and offering them intensive training in extreme conditions. This allows nurses to gain valuable experience working in field conditions, which they later use to provide assistance to casualties during actual combat situations (Medical Education and Training in Israel, 2024).

In cases where traditional education becomes impossible due to security threats on campus, mobile classrooms are actively used in Israel. These specially equipped vehicles or mobile shelters allow the educational process to be relocated to safer areas. Mobile classrooms are equipped with necessary technology, learning materials, and internet connectivity, enabling classes to be conducted even in field conditions or in areas unaffected by the conflict. This allows education to continue in situations of limited access to traditional educational institutions, ensuring the continuity of nursing education despite external challenges.

One of the important features of medical education in Israel is the development of a system of resilience for educational institutions. Many universities and medical centres have shelters and specially protected zones where education and medical practice can continue even during active combat operations. For example, hospitals in Tel Aviv and Haifa have underground facilities, where not only medical work is carried out, but the educational process also continues, ensuring the safety of students and staff. These shelters prevent interruptions in education and ensure that learning activities continue in crisis situations.

Israel also has significant experience in mobilizing medical personnel during military conflicts, which is a key element of the national security strategy. Nurses and other medical professionals play a critical role in treating the wounded, both military and civilian. During major military conflicts, such as the War of Independence (1948) and the Six-Day War (1967), Israeli nurses were mobilized to treat the wounded in both civilian hospitals and military bases. Nursing schools and hospitals adapted their curricula, including courses in first aid, field treatment of the wounded, and tactical medicine. This approach allows nurses to acquire important skills that are then used not only during wartime but also in everyday medical practice during peacetime (Medical Education and Training in Israel, 2024).

Israel is also actively cooperating with international organizations and medical institutions for the exchange of experience and improvement of nurse training during conflicts. Partnerships with international medical associations and educational institutions enable the use of advanced innovations in medical education. Exchange programs and training help Israeli nurses implement the latest technologies, methodologies, and standards in training, ensuring their high professional preparedness in any conditions (Swirski S., 2002).

No less important is the issue of psychological support for medical workers. During conflicts, nurses face significant emotional strain, as working in combat conditions is not only physically demanding but also emotionally exhausting. Israeli nurses undergo special stress management training and have access to psychological support. This helps them better cope with the emotional and psychological burdens that arise when providing assistance in wartime or disaster conditions (Medical Education and Training in Israel, 2024).

After conflicts, Israel actively works on restoring normal educational processes. Universities and medical institutions quickly adjust curricula, incorporating new experiences and knowledge gained during the crisis situation. Additionally, extra support is provided to students who may have missed part of their studies due to the conflict, allowing them to catch up on lost material and complete their education.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Nursing education in Israel during armed conflicts demonstrates a high level of adaptation thanks to innovative teaching strategies. The use of distance learning, simulation centres, and mobile classrooms ensures the continuity of education even in crisis conditions. Israel also actively collaborates with international organizations to exchange experiences and improve programs, and places emphasis on psychological support for medical personnel. After conflicts end, the educational process is quickly restored, integrating new experiences gained during the war.

For Ukraine, it is important to consider these strategies to ensure the continuity of medical education and enhance the ability of nurses to effectively operate in combat conditions. Distance learning, simulation centres, and mobile classrooms can be effective tools for training even during active hostilities.

Further research should focus on the following areas: 1) assessment of the impact of new technologies on nursing education, specifically the integration of distance learning and simulation centres in Ukraine; 2) development of effective psychological support strategies for medical workers during combat operations; 3) study of international cooperation for the exchange of experience in preparing nurses in crisis situations; 4) evaluation of the adaptation of curricula after conflicts end; 5) preparing nurses for work in hybrid conflicts. These studies will contribute to the development of adaptive strategies, the improvement of nursing education in crisis conditions, and the resilience of the medical system, particularly in Ukraine.

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Chapter II. HISTORICAL AND PHILOSOPHICAL ASPECTS OF PEDAGOGICAL RESEARCH

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РОЗВИТОК УКРАЇНСЬКОМОВНОЇ КОМПЕТЕНТНОСТІ В СТУДЕНТІВ-ІНОЗЕМЦІВ У ПРОЦЕСІ ПРОФЕСІЙНОЇ ПІДГОТОВКИ В ЗАКЛАДАХ ВИЩОЇ ОСВІТИ УКРАЇНИ

Анотація. Формування українськомовної компетентності студентів-іноземців – важливий аспект їхньої інтеграції в українське суспільство та освітній процес. Основною метою цієї діяльності є забезпечення належного рівня володіння українською мовою для навчання, повсякденного спілкування та майбутньої професійної діяльності. У процесі професійної підготовки майбутніх фахівців у галузі медичної освіти для розвитку українськомовної компетентності студентів-медиків необхідно враховувати такі чинники: організація навчального процесу (рівневий підхід: оволодіння рівнями В1–В2 за Загальноєвропейськими рекомендаціями з мовної освіти), комунікативний підхід організації навчального процес на діяльнісній основі (розвиток діалогічного, полілогічного мовлення тощо), акцент на розвитку навичок розмовної мови, що дає змогу студентам ефективно спілкуватися у реальних ситуаціях; створення комунікативно насиченого середовища, спілкування з носіями української мови інтеграція культурологічного компонента: ознайомлення з українською культурою, традиціями та історією для формування міжкультурної компетентності; розвиток мовних навичок (у галузі фонетики – практика правильної вимови звуків, наголошування слів, інтонація); у галузі лексика, граматики (синтаксис, пунктуація) – вивчення базового словникового запасу, основних граматичних конструкцій, необхідних для розуміння та побудови висловлювань, володіння українським мовленнєвим етикетом, мовними формулами вітання, прощання, вибачення, прохання, подяки тощо. Ключовими навичками щодо володіння українськомовною компетентністю є читання, письмо, аудіювання та говоріння. Використання сучасних технологій навчання забезпечує успішність цього процесу. Формування україномовної компетентності в студентів-іноземців сприяє не лише академічному успіху, а й їхньому особистісному розвитку, кращому розумінню українського суспільства та адаптації до нового середовища.

Ключові слова: українськомовна компетентність; іноземні студенти; медичні університети; комунікація; професійне навчання; культурна дипломатія; комунікативні навички.

DEVELOPMENT OF UKRAINIAN LANGUAGE COMPETENCE AMONG FOREIGN STUDENTS IN THE PROCESS OF PROFESSIONAL TRAINING AT HIGHER EDUCATIONAL INSTITUTIONS OF UKRAINE

Abstract. Formation of Ukrainian language competence of foreign students is an important aspect of their integration into Ukrainian society and educational process. The main goal of this activity is to ensure the proper level of Ukrainian language proficiency for learning, everyday communication and future professional activity. In the process of professional training of future specialists in the field of medical education, the following factors must be taken into account to develop Ukrainian language competence of medical students: organization of the educational process (level approach: mastery of levels B1–B2 according to the Common European Recommendations for Language Education), communicative approach to organizing the educational process on an activity basis (development of dialogical, polylogical speech, etc.), emphasis on the development of spoken language skills, which allows students to communicate effectively in real situations; creating a communicatively rich environment, communication with native Ukrainian speakers, integration of the cultural component: familiarization with Ukrainian culture, traditions and history to form intercultural competence; development of language skills (in the field of phonetics – practice of correct pronunciation of sounds, word stress, intonation); in the field of vocabulary, grammar (syntax, punctuation) – studying basic vocabulary, basic grammatical constructions necessary for understanding and constructing statements, mastering Ukrainian speech etiquette, language formulas of greeting, farewell, apology, request, gratitude, etc.

The key skills for acquiring Ukrainian language competence are reading, writing, listening and speaking. The use of modern teaching technologies ensures the success of this process. The formation of Ukrainian language competence in foreign students contributes not only to academic success, but also to their personal development, better understanding of Ukrainian society and adaptation to a new environment.

Keywords: ukrainian language competence; foreign students; medical universities; communication; professional training; cultural diplomacy; communication skills.

INTRODUCTION

The problem formulation. Before the full-scale Russian invasion of Ukraine, Ukrainian higher education was quite attractive to foreign students. The factors that contributed to this include the high level of education, internationally recognized scientific achievements, effective teaching methods, higher education institutions (HEIs) offering quality education, as well as the fact that obtaining higher education in Ukraine is not only prestigious, but also profitable (compared to other European countries, the cost of education is much lower). In addition, according to Expat Insider 2016, Ukraine became the most affordable country in terms of living costs and took second place in the ranking in terms of personal financial satisfaction.

Foreign students living in Ukraine have the same rights, freedoms and obligations as Ukrainian citizens (State Enterprise «Ukrainian State Center for International Education»).

Training future specialists from among foreign students in Ukraine is one of the directions of cultural diplomacy, effective forms of scientific and educational cooperation, which contributes to strengthening the authority of Ukraine in the international arena, since foreign students after graduation receive a European-style education, their diplomas are recognized in the world. In view of this, the problem of developing Ukrainian-language competence of foreign students as higher education students, who are trained in Ukrainian higher education institutions under a special professional training program for foreigners in studying the language and culture of the country and in the process of studying individual specialized disciplines, where an important component is the formation of Ukrainian-language competence, is becoming more and more relevant. The formation of Ukrainian-language competence of foreign students is a necessary condition for their integration into Ukrainian society and the educational process. The main goal of this activity is to ensure an adequate level of proficiency in the Ukrainian language for study, everyday communication, and future professional activities.

Analysis of recent research and publications. The issue of professional training of foreign students has been the focus of attention of many researchers. Various aspects of professional training of medical specialists, including the formation of Ukrainian-language, intercultural, and communicative competencies, have been studied by N. Hantimurova (2024), N. Fedchyshyn, Yu. Rudyak (2019), S. Kostyuk (2018), I. Levenok (2019), Zh. Rahrina (2017), N. Kalashnik (2016) and others. (Ya. Proskurkina, Z. Rodchyn, L. Bidenko, O. Semenog, V. Lonshakova and others). Scientists are developing educational and methodological support (curriculums, textbooks, manuals, test tasks, etc.) in the Ukrainian language for foreign students (Burnos, Levenok, & Pylypenko-Fritsak, 2018; Nazarevych, & Havdyda, 2017).

At the same time, the analysis of the above sources indicates the need for further study of the problem of forming Ukrainian-language competence of foreign higher education applicants.

THE AIM AND RESEARCH TASKS

The purpose of the article is to characterize the development of Ukrainian-language competence among foreign medical students in the process of their professional training in higher education institutions of Ukraine.

RESEARCH METHODS

In the process of research, theoretical methods of scientific search were used: analysis, synthesis, generalization of scientific sources, educational and methodological literature, normative educational documents; empirical methods: pedagogical observation of the process of Ukrainian-language education of foreign students, which made it possible to highlight the state of development of the problem in theory and practice, to clarify the state of formation of Ukrainian-language competence of foreign students of medical specialties in higher education institutions of Ukraine.

RESEARCH RESULTS

According to the official data of Ukrainian State Center for International Education (as of 2023), the most popular specialties chosen by foreign students in Ukraine include medicine (24,224 people), dentistry (2,792 people), pharmacy, industrial pharmacy (2,376 people) (State Enterprise «Ukrainian State Center for International Education»).

As of January 1, 2023, 51,676 students from different countries of the world were studying in Ukraine (Fig. 1). The number of foreign students in 2021–2022 reached 84,136 people. Due to the Russian-Ukrainian war, the number of foreign students in Ukraine decreased by more than 30,000 people, reaching the level of 2011–2012, when 53,664 were studying in our country. The same trend was observed in 2014–2015, when, due to the beginning of the Russian invasion in 2014, in the eastern regions of Ukraine and the annexation of Crimea, the number of foreign students decreased by more than 6,000 people, compared to the previous («peaceful») 2013–2014: then almost 70,000 students from different countries of the world studied in Ukraine (State Enterprise «Ukrainian State Center for International Education»). As we can see, Russian aggression negatively affected the process of obtaining education by foreign students in Ukraine, the number of foreign students decreased by more than 30,000 people.

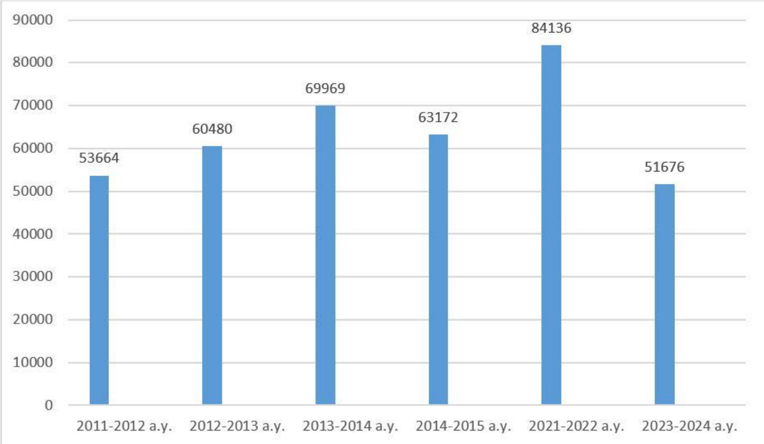

Figure 1. Number of foreign students in Ukraine in 2011–2023
Source: (State Enterprise «Ukrainian State Center for International Education»)

The same dynamics can be observed in the example of leading medical universities of Ukraine. For example, in the Ternopil National

Medical University named after I. Ya. Horbachevsky (hereinafter referred to as TNMU) in the years of 2019–2020 the number of students was over 2300 people (International Students' Faculty). Students from over 50 countries of the world (the largest number of students were from Nigeria, India, Ghana and other countries) received medical education here in the specialties of «Medicine», «Dentistry», «Pharmacy» and «Nursing». In 1997, there were only a few dozen foreign students at Ternopil State Medical Academy. Currently, the HEI has the opportunity to recruit up to 500 foreign students each new academic year (Hantimurova, Fedchyshyn, & Rudiak, 2019, pp. 7–8). As of 2023, 1,737 foreign students are studying here. Despite the high level of professional training at TNMU, which is among the most popular among foreign students (State Enterprise «Ukrainian State Center for International Education»), the challenges of war negatively affect the number of foreign medical students.

The same trend is characteristic of the Faculty of Training of Foreign Citizens at Ivano-Frankivsk National Medical University (hereinafter referred to as IFNMU), where since 1992 the training of foreign students has been started. The independence of Ukraine has led to a radical change in priorities in the HEI, in particular regarding the expansion of ties with foreign partners and the training of highly qualified medical specialists for foreign countries. In the early 1990s, the university was attended by people from three countries: Romania, Pakistan, and Cameroon. Over the next ten years, we did not observe such active dynamics as, for example, at the TNMU; the total number of foreign students at the IFNMU did not exceed 20 people annually, which is explained by objective factors: during the Soviet era, Ivano-Frankivsk region was closed to free visit by foreign citizens due to the Ukrainian resistance (UPA activities) to the Moscow-Soviet regime, as a young independent state Ukraine was not known on the world map, including on the world market of educational services. Since 2002, the number of foreign students at IFNMU has been actively growing. Therefore, there was a need to create a faculty for training foreign citizens, it was founded on May 18, 2005. And already in 2010, 857 people studied here, in 2018 – 1423 students. At the beginning of 2022, 1893 students from Algeria, Bulgaria, Gabon, Ghana, Ecuador, Egypt, Zambia, Zimbabwe, mostly from India (1380 people), Iraq, Spain, Jordan, Cameroon, Canada, Kenya, Congo, Lebanon, Libya, Malawi, Maldives, Morocco, Namibia, Nigeria (114 people), the Netherlands, Germany, Pakistan, Palestine, Poland (175 people), Rwanda, Syria, USA, Turkey, Hungary, France, Switzerland, etc. studied at the faculty for training foreign citizens. During this time, students from 46 countries of the world have received education at IFNMU (Faculty of Training of Foreign Citizens).

The key tasks of professional training of foreign medical students include theoretical and practical training of highly qualified specialists with moral and spiritual values, competitive in the domestic and international labor markets. In view of this, great attention is paid to the acquisition by students of deep knowledge of theoretical foundations and modern methods of diagnosis, treatment and prevention of diseases, communicative development, Ukrainian-language competence through mastering the Ukrainian language. According to the global scale of the Common European

Framework of Reference for Languages: Learning, Teaching and Assessment, the following levels of proficiency in the state language have been established: elementary level of the first degree (A1); elementary level of the second degree (A2); intermediate level of the first degree (B1); intermediate level of the second degree (B2); fluent level of the first degree (C1); fluent level of the second degree (C2).

The content of the tasks for determining the level of proficiency in the Ukrainian language corresponds to the Classification of levels of proficiency in the state language and requirements for them, approved by the decision of the National Commission on State Language Standards of June 24, 2021 No. 31 (Levels of proficiency in the state language, 2021). In accordance with the Procedure for verifying the level of proficiency in the state language (see Table 1), the unified requirements for the examination procedure and assessment criteria, approved by the decision of the National Commission on State Language Standards of May 13, 2021 No. 20, the level of proficiency in the state language is determined based on the calculation of points for the written and oral parts and their conversion into percentages from 0% to 100%. According to the results of the study, foreign medical students must master the Ukrainian language at the B1–B2 level (Levels of proficiency in the official language, 2021).

Table 1

Levels of proficiency in the Ukrainian language for foreign students and requirements for them

Levels of proficiency n the Ukrainian language.	**Requirements for levels of proficiency in the Ukrainian language.**
Intermediate level of the first degree.	A person understands the main content of clear, standard information on topics that are close and often used at work, in study, during leisure time, etc. The level of knowledge of the Ukrainian language enables handling most situations that may arise while traveling in Ukraine. A person can express himself/herself simply and coherently, in particular on topics of personal interest; is able to describe personal experience, events, dreams, plans, and provide brief explanations of the point of view on some events.
Intermediate level of the second degree.	The person can understand the main ideas of complex text on both concrete and abstract topics, including specialized discussions in his/her field; can communicate with native speakers with a degree of speed and spontaneity that makes regular relationships with them possible without causing difficulties for either party; can express himself/herself clearly and in detail on a wide range of topics, in particular, expressing his/her opinion on a particular issue, giving the advantages and disadvantages of different positions.
Fluency level of the first degree.	The person can understand a wide range of complex and long texts and recognize the hidden meaning in them; can express himself/herself quickly and spontaneously without noticeable difficulties in finding the means of expression, use the Ukrainian language easily and accurately in communication, learning and for professional purposes; can express themselves clearly, structured and in detail on complex topics, demonstrating knowledge of grammar rules.
Fluency level of the second degree.	Fluency level of the second degree. A person easily understands practically everything he hears or reads, can summarize information from various oral or written sources, make a reasoned presentation in a logical, coherent form, and also express himself spontaneously, quickly and accurately, conveying the most subtle shades of meaning even in complex situations.

A means of forming Ukrainian language competence of foreign students studying in medical specialties is the discipline «Ukrainian as a foreign language» (English-language form of instruction) for foreign students of higher educational institutions of the Ministry of Health of Ukraine (Ukrainian language as a foreign language (English-language form of instruction, 2016).

Teachers of medical higher education institutions are actively working on creating educational and methodological support (Burnos, Levenok, Pylypenko-Fritsak, 2018; Nazarevych, Havdyda, 2017). In order to form Ukrainian-language competence of foreign students, taking into account the requirements for proficiency in the levels of Ukrainian as a state language (Levels of proficiency in the state language, 2021), the provisions of the Standard Program for the discipline «Ukrainian as a foreign language» (English-language form of instruction, 2016) for foreign students of higher educational institutions of the Ministry of Health of Ukraine, leading specialists of medical HEIs (IFNMU, TNMU, Zaporizhia State Medical University, Sumy State University, etc.) closely cooperate on the implementation of unified requirements for the compilation of textbooks, teaching aids for foreign medical students. Accordingly, certain requirements have been created for the structure and content of professionally oriented texts, tasks, etc. (Levenok, 2018, p. 116).

The development of communication skills allows foreign medical students to confidently integrate into the professional environment, provide high-quality medical care, and establish effective interaction with patients and colleagues. The integration of foreign medical students into the Ukrainian-speaking environment is an important task that affects their successful learning, social adaptation, and further professional activities. This requires systematic work that covers linguistic, cultural, and social components.

The integration of foreign medical students into the Ukrainian-speaking environment contributes not only to their professional development, but also to the creation of conditions for the harmonious coexistence and mutual enrichment of different cultures within Ukrainian society. Studying Ukrainian as a foreign language in medical universities of Ukraine is a key aspect of the training of foreign students, which ensures effective professional activity, successful integration into the educational process and communication with patients. This process includes the formation of both general language competence and specialized knowledge of medical terminology. The features of studying the Ukrainian language at medical universities include a professional orientation (the main emphasis is on mastering medical terminology and developing professional communication skills), practical orientation (training is aimed at developing skills in working with documentation, conducting consultations, discussing clinical cases, and working in medical teams), language adaptation (special attention is paid to understanding the linguistic realities and cultural aspects of communication in Ukraine), communicative approach (using dialogues, role-playing games, and simulations to model real situations), project method (performing tasks that include creating medical reports and presenting clinical cases), use of interactive technologies (video and audio materials from real medical consultations, using specialized online platforms for studying the Ukrainian language, mobile applications to enrich medical vocabulary), cultural integration (getting acquainted with the culture of Ukraine, excursions, participating in festivities, events, lectures on the history and traditions of Ukraine, etc.), support for the international community (foreign students have the opportunity to participate in the work of associations that promote integration and exchange of cultural experience), etc.

The basis of the formation of Ukrainian-language competence is a communicative approach. In our opinion, one of the pedagogical conditions for the effectiveness of professional training of medical students in medical higher education institutions is the creation of a rich Ukrainian-language environment, where foreign students will actively communicate with the Ukrainian native speakers. Such an environment will serve the active communicative activity of future doctors. This communicative and active approach should ensure professional training at all stages of training. Thus, foreign citizens study at IFNMU in three stages: pre-university preparation (studying the language and fundamental disciplines), undergraduate education in the main specialties («Medicine», «Dentistry», «Pharmacy, Industrial Pharmacy») and postgraduate education (studying master's program, clinical residency, postgraduate study). After completing their studies, students of IFNMU receive an international diploma (Faculty of training of foreign citizens). Since 2003, a preparatory department with a licensed admission capacity of 300 people has been operating at the faculty, where students can master the basics of Ukrainian conversational and professional communication of a future doctor.

It is important to familiarize foreign students with the innovations of the New Ukrainian Spelling, which came into force in 2024. One of the pedagogical conditions for the formation of Ukrainian-language competence of foreign medical students is a highly professional teacher, who for foreign applicants for higher education should become not just a person who transmits certain knowledge, but also a good mentor, a coach who will help integrate into the Ukrainian-speaking environment and adapt to new socio-cultural conditions, especially in the face of Russian aggression and other challenges. As scientists rightly note (Hantimurova, Fedchyshyn, & Rudiak, 2019), «the task of teachers in the first year of study is to bring the level of socio-cultural, personal and educational development of foreign students as close as possible to the level of domestic first-year students», since the majority of foreign students who come to study in Ukraine «do not possess the basics of the culture of communication in the Ukrainian language, speech and everyday etiquette», therefore an important component of the professional activity of a teacher in a higher education institution is teaching foreign students intercultural and interpersonal communication, Ukrainian speech etiquette. The principle of continuity in education assumes that during the first two years of study in Ukrainian higher education institutions, foreign students acquire new and improve acquired knowledge and skills in communication in Ukrainian, which they will be able to apply in future clinical practice, since after the third year they attend professional classes in Ukrainian hospitals and communicate with Ukrainian-speaking patients (Hantimurova, Fedchyshyn, & Rudiak, 2019, p. 8).

An important element of the educational process is extracurricular work with foreign students, organization of meaningful cultural leisure, creation of Ukrainian clubs/centers, involvement of students in Ukrainian traditional holidays, ceremonies, traditions, acquaintance with Ukrainian literature, culture, history, art, local lore, etc., involvement in amateur artistic activities (creative evenings, concerts, University Days, Shevchenko holidays, Independence Day of Ukraine, etc.), volunteer activities, scientific research work, sports events, charity work, etc.

CONCLUSION AND PROSPECTS FOR FURTHER RESEARCH

Formation of Ukrainian language competence of foreign students is an important aspect of their integration into Ukrainian society and educational process. The main goal of this activity is to ensure the proper level of Ukrainian language proficiency for learning, everyday communication and future professional activity. In the process of professional training of future specialists in the field of medical education, the following factors must be taken into account to develop Ukrainian language competence of medical students: organization of the educational process (level approach: mastery of levels B1–B2 according to the Common European Recommendations for Language Education), communicative approach to organizing the educational process on an activity basis (development of dialogical, polylogical speech, etc.), emphasis on the development of spoken language skills, which allows students to communicate effectively in real situations; creating a communicatively rich environment, communication with native Ukrainian speakers, integration of the cultural component: familiarization with Ukrainian culture, traditions and history to form intercultural competence; development of language skills (in the field of phonetics – practice of correct pronunciation of sounds, word stress, intonation); in the field of vocabulary, grammar (syntax, punctuation) – studying basic vocabulary, basic grammatical constructions necessary for understanding and constructing statements, mastering Ukrainian speech etiquette, language formulas of greeting, farewell, apology, request, gratitude, etc.

The key skills for acquiring Ukrainian language competence are reading, writing, listening and speaking. The use of modern teaching technologies ensures the success of this process. The formation of Ukrainian language competence in foreign students contributes not only to academic success, but also to their personal development, better understanding of Ukrainian society and adaptation to a new environment.

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УПРАВЛІННЯ ЯКІСТЮ ОСВІТИ В КРИЗОВИХ УМОВАХ

Анотація. У статті досліджуються нагальні питання оцінки якості освіти в умовах гострої кризи, особливу зважаючи на перебування освітньої системи України під впливом активних воєнних дій агресора. Проведено аналіз ключових викликів, які постають перед освітніми закладами різних рівнів та педагогічними, науково-педагогічними працівниками в контексті об'єктивного оцінювання навчальних досягнень здобувачів освіти. Розглядаються специфічні труднощі, пов'язані з організацією дистанційного навчання, забезпеченням доступу до освітніх ресурсів, підтримкою психологічного стану всіх учасників освітнього процесу. Описано основні виклики, які постали перед елементами системи забезпечення якості освітнього процесу на рівні вищої школи.

На основі проведеного аналізу описано рекомендації, спрямовані на ефективну адаптацію освітнього процесу до складних кризових умов. Запропоновано практичні підходи до використання гнучких та альтернативних форм оцінювання, наголошено на важливості забезпечення емоційного благополуччя здобувачів освіти і педагогів. Обґрунтовано необхідність активного впровадження сучасних цифрових технологій для підтримки безперервності та якості навчання.

Крізь призму аналізу міжнародного досвіду у сфері управління якістю освіти, наголошено на важливості у процесі управління якістю освіти базуватись на концепціях Total Quality Control (TQC) та Total Quality Management (TQM), розглянуто можливості їх адаптації та застосування в сучасному українському освітньому контексті.

Стратегічно важлива системна розбудова сучасних закладів освіти, які характеризуються високим рівнем інноваційності в усіх ключових сферах діяльності, включаючи науково-дослідницьку роботу, організацію освітнього процесу, ефективний менеджмент, налагодження конструктивних відносин з навколишнім соціальним середовищем, формування розвиненої корпоративної культури, пропагування прогресивних цінностей та відповідальну поведінку всіх співробітників, що є особливо актуальним в умовах нестабільності та необхідності швидкого відновлення та подальшого розвитку національної освітньої системи після завершення кризи.

Ключові слова: оцінка якості освіти, кризові умови, навчальні досягнення, адаптація освітнього процесу, управління якістю, інноваційний університет.

MANAGEMENT OF THE QUALITY OF EDUCATION IN CRISIS CONDITIONS

Abstract. The article delves deeply into the pressing issues of education quality assessment under conditions of acute crisis, with a particular focus on the period of active hostilities directly impacting the Ukrainian education system. A detailed analysis of the key challenges faced by educational institutions at various levels and pedagogical staff in the context of objectively evaluating students' academic achievements is conducted. Specific difficulties associated with the organization of distance learning, ensuring access to educational resources, and supporting the psychological well-being of all participants in the educational process are examined. Based on the analysis, concrete recommendations aimed at effectively adapting the educational process to complex crisis conditions are formulated.

Practical approaches to the use of flexible and alternative forms of assessment are proposed, the importance of ensuring the emotional well-being of education seekers and teachers is emphasized. The need for active implementation of modern digital technologies to support the continuity and quality of education is substantiated.

Through the prism of the analysis of international experience in the field of education quality management, the importance of the process of education quality management to be based on the concepts of Total Quality Control (TQC) and Total Quality Management (TQM) is emphasized, the possibilities of their adaptation and application in the modern Ukrainian educational context are considered.

The systematic development of modern educational institutions characterized by a high level of innovation in all key areas of activity, including research work, organization of the educational process, effective management, establishment of constructive relations with the surrounding social environment, formation of a developed corporate culture, promotion of progressive values and responsible behavior of all employees, is strategically important, which is especially relevant in conditions of instability and the need for rapid restoration and further development of the national education system after the end of the crisis.

Keywords: education quality assessment, crisis conditions, military actions, learning achievement, adaptation of the educational process, quality management, innovative university.

INTRODUCTION

The problem formulation. We live in conditions of turbulence and uncertainty. The events of recent years – a global pandemic, excessive consumption of resources, environmental pollution, global warming, political instability – have created a threat of ecological and socio-humanitarian catastrophe. These conditions negatively impact all institutions, including the educational system. Assessing the quality of education in such conditions becomes particularly complex and requires the adaptation of traditional assessment methods to new realities.

Analysis of recent research and publications. Any crisis phenomenon affects society, and therefore education. The features of access to quality education and its provision in times of crisis (economic, political, military, environmental, etc.) are discussed in the studies of J. Aber et etc. (2021), L, D, Burde et etc. (2015), L. Davies (2004), S. Heyneman (1990, 1993), Kravchenko T., Prysiazhniuk L.et etc. (2023), A. Smith (2010) and others. The analysis of these works showed that solving the problem of ensuring quality education in times of crisis requires the use of the latest educational technologies and effective educational management.

THE AIM AND RESEARCH TASKS consist of revealing the challenges that arise for education in crisis conditions. Also, the search for effective methods of assessing the quality of education under such conditions.

RESEARCH METHODS: method of analysis and synthesis, systematic, method of generalization.

RESULTS OF THE RESEARCH

In crisis conditions, the problem of ensuring the quality of education arises – a characteristic of the educational process that directly affects the development of social intelligence, and consequently, society as a whole (Fig. 1).

Fig. 1. Dialektyka quality of education

For Ukraine, additional tension has been added by russia's military aggression, which has been ongoing for over 10 years and active for more than 3 years. The full-scale war has worsened access to education, deepened existing educational inequality, negatively impacted the quality of the learning process and academic performance, the consistency of learning and scientific research, and has also affected the psycho-emotional state of participants in the educational process.

The quality of education is not only the соответствие of the educational process to standards but also the effectiveness of the knowledge that students acquire. In normal conditions, quality is assessed through state standards, tests, monitoring of academic progress, and teacher certification. Crisis situations create serious challenges for the education system. Traditional methods of assessing education quality, developed for stable conditions, often prove ineffective in crisis situations, leading to a decline in the level of education and complicating the objective assessment of students' knowledge. That is why it is necessary to develop adaptive approaches to assessing the quality of education that will allow maintaining its level even in difficult conditions. Research on these problems is important both for ensuring quality school education and for training qualified specialists capable of functioning effectively in conditions of uncertainty.

The research results show that assessing the quality of education in crisis conditions requires considering factors such as the safety and psychological state of all participants in the educational process, access to education, and the adaptation of curricula.

In particular, the analysis of the impact of military actions in Ukraine on the education quality assessment system revealed significant problems related to the destruction of infrastructure, mass forced migration, and limited access to distance learning. The physical destruction of educational institutions has led to a significant portion of students losing the opportunity to attend schools, and mass migration has complicated the organization of the educational process. At the same time, the research also identified a number of successful solutions that contribute to maintaining the quality of education in crisis conditions. The All-Ukrainian Online School provided access to learning materials for many students, and international support allowed Ukrainian students to continue their studies abroad. Psychological support for participants in the educational process also proved important for ensuring effective learning.

As a result of military aggression, over 4,000 educational institutions have been affected by bombings and shelling, with almost one hundred and fifty of them being institutions of higher education (source: https://saveschools.in.ua). Over 50 institutions of higher education have been relocated, 8 of them for the second time. The greatest damage to educational institutions has been inflicted in the Kharkiv, Donetsk, Kyiv, and Kherson regions. There is also destruction in the border western regions – Ivano-Frankivsk and Lviv.

In total, financial and material losses amount to over $100 million from the destruction of educational infrastructure, scientific laboratories, and the destruction of libraries. Speaking about pedagogical education, practical training suffers from the destruction of kindergartens and schools – every 7th school has suffered destruction.

There has been a large-scale migration of participants in the educational process: out of over 5 million internally displaced persons in Ukraine, about 100,000 are students. A significant loss of human resource potential due to the migration or death of teachers and lecturers is also a negative factor in ensuring quality.

Today, it is important to preserve equal access to quality education! This means allowing students who are abroad to study. The availability of educational resources, maintaining the level of teacher training, ensuring continuous learning (in synchronous/asynchronous modes), and ensuring/maintaining the level of digitalization are the main issues on the agenda of the educational system's management.

The introduction of digital technologies and interactive learning platforms positively impacts the quality of education. Among the current successful innovative solutions, we note the All-Ukrainian Online School, mobile learning centers, grant programs for participants in the educational process, and others.

Unfortunately, crisis situations have a negative impact on the full provision of education quality. According to a World Bank report in 2022, 40% of students worldwide noted a deterioration in the quality of education due to a lack of resources in educational institutions (World Bank, 2022).

In our country, in 2024, the expenditures of the consolidated budget for education amounted to UAH 348.4 billion, of which the expenditures of the state budget together with transfers were UAH 172.0 billion. A significant part of the budget was directed to the payment of salaries to pedagogical workers (UAH 100.9 billion), the financing of higher education (UAH 46 billion), as well as support for children with special educational needs (UAH 286.1 million). The state also invested UAH 1.4 billion in the publication and purchase of textbooks, UAH 1.3 billion in the arrangement of shelters in 62 schools in frontline regions, UAH 1.1 billion in providing meals for 1 million primary school students, UAH 1.3 billion in the implementation of the "New Ukrainian School" program, and UAH 1 billion in the purchase of 417 school buses (Ministry of Finance of Ukraine, 2024).

In 2025, the funding for education and science has been increased to UAH 194.3 billion, which is 35% more compared to 2023 (UAH 143.4 billion). The largest expenditures include UAH 6.2 billion for the arrangement of shelters in schools (4 times more than in 2024), UAH 1.6 billion for the purchase of school buses, UAH 2.15 billion for the "New Ukrainian School" reform, and UAH 540 million for the creation of educational and practical centers in vocational education institutions. Also, UAH 55.6 billion has been allocated for the financing of professional pre-higher and higher education, UAH 3.3 billion for the financing of science, UAH 2.83 billion for meals for primary school students, UAH 960 million for the arrangement of food blocks, UAH 500 million for fire protection, and UAH 12 billion for additional payments to teachers (Ministry of Education and Science of Ukraine, 2025).

For higher education in a broad sense, "quality of education" is the unity of the following components:

- quality of the material and technical base
- quality of scientific and pedagogical staff (their training, professional development, etc.)
- quality of educational programs
- quality of teaching (educational process and pedagogical activity)
- quality of learning (learning outcomes of students)
- quality of management
- quality of research (science as an important component of higher education)
- quality of the information and educational environment

The war has led to a disruption of usual educational trajectories and the creation of new challenges (among which are instability due to constant shelling, air raid alerts, power outages, unstable internet connection), which make it impossible to maintain the continuity of the educational process.

In crisis situations, it is necessary to understand the socio-emotional needs of students during the crisis period. For example, war is a serious traumatic experience: students and teachers experience stress, psychological discomfort, and panic attacks.

There has been an increase in the need for psychological assistance, which has led to the organization of specialized services. For example, the Vasyl Stefanyk Precarpathian National University has a program for providing anonymous psychological assistance, "Together with You."

Traumatic experiences negatively affect students' motivation to learn. Therefore, it is necessary to support students' activity in the learning process. Educational institutions in non-frontline areas have maximally transferred the educational process to an in-person format – live.

At the same time, the management of educational institutions should take into account the needs of the teachers themselves, as they also face both traumatic experiences and a double workload. They need to be given no less attention and support than the students.

It is also important to create safe conditions for educational and scientific activities (arrangement of shelters, adherence to evacuation procedures, periodic civil defense training, etc.).

According to Andreas Schleicher, Director for Education and Skills and Special Advisor to the Secretary-General on Education Policy at the Organisation for Economic Co-operation and Development in Paris, the following steps are necessary during crisis situations:

- ascertain the stage at which the educational environment is;
- facilitate the recovery of learning by combining regulatory, pedagogical, and technological solutions;
- adapt and extend learning time;
- ensure the flexibility of the curriculum and smooth learning pathways within the system. This allows for the resumption of learning at any stage, to pick up and catch up;
- adapt teaching strategies and pedagogy to individual needs. It is important to adapt the teaching strategy, to understand how to adapt the learning process to the different needs of students who have experienced trauma;
- provide emotional support in parallel with the learning process. (Koval, 2023)

Another problem is the formation of competencies in conditions of distance or blended learning: soft skills – due to the lack of stable communication and psychological post-war traumas; hard skills – due to the instability of practical training (in classes, laboratories, during internships). At the same time, War skills are being formed – skills for professional activity during the war. In particular, this includes the rapid acquisition of micro-qualifications. It should be noted that for Ukraine, the European thesis on lifelong learning has transformed into the slogan "acquire new qualifications to survive."

But today, a new problem has become relevant for educational institutions – the formation of post-war skills, taking into account the psycho-emotional state of society.

International academic mobility of both students and staff promotes intercultural and international understanding. In this direction, the problems lie in the restriction of travel abroad for young men and men, the financial difficulties of citizens, and the difficulties in organizing internal mobility to leading universities located in the frontline zone. At the same time, European universities have offered many free programs for students and teachers, and a significant number have taken advantage of them.

Physical mobility remains a powerful tool, while the innovative experience of blended mobility and virtual learning environments is becoming increasingly important and can open up new opportunities for international exchange and cooperation. In particular, universities are actively involved in virtual mobility by seeking international partners through the UNICollaboration platform on COI. For pedagogical institutions, participation in the eTwinning program is useful.

It is important that higher education institutions do not overdo it with external academic mobility. It is necessary to keep people in Ukraine, as noted by the Rector of Vasyl Stefanyk Precarpathian National University, Ihor Tsependa: "We are doing everything to ensure that Ukrainian youth remain in Ukraine and contribute to its development. Such projects as the International Youth Meeting Center in Mykulychyn, as well as youth exchange programs, are an important tool for achieving this goal."

We have good practices of internal mobility: students of the relocated Kherson National University study together on the basis of and with students of the Precarpathian University.

Our belief in victory necessitates the quality training of specialists who will rebuild our country. It should be noted that, despite the wartime, the process of external quality assurance in education in Ukraine is continuously maintained at the proper level: the National Agency for Quality Assurance in Higher Education permanently accredits educational programs; post-accreditation processes and institutional accreditation of higher education institutions have been announced, accreditation of higher education institutions by scientific fields has been initiated, reform processes are being implemented, in particular with the adoption of the Law "On Individual Educational Trajectories," the Ministry of Education and Science of Ukraine plans to develop a new generation of sectoral standards of higher education, etc.

The pandemic and the war caused a forced transition of higher education institutions to distance learning, forcing teachers to build the educational process in a remote format, which is associated with the digitalization of education and is one of its aspects. The digitalization of the educational process is one way to ensure equal access to quality higher education. It takes place through distance learning systems, online consultations, the digitalization of institutional management, the development and use of digital educational platforms, and the professional development of scientific and pedagogical staff through Internet resources. Digitalization enables the integrated interaction of the virtual and physical – it creates a cyber-physical educational space.

Improving the quality of education and the development of research work are the main tasks of university leadership.

The management system in universities should be based on effective European principles of Total Quality Commitment (TQC) and Total Quality Management (TQM).

We agree with the opinion of Professor Tadeusz Wawak of Jagiellonian University that, despite all socio-political circumstances, it is necessary to build modern educational institutions, and "a modern university should be innovative – it should be an example of innovative thinking, activity in the field of scientific research, education, management, relations with the environment, culture, declared values and views, and the behavior of its employees."(Wawak, 2022)

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Assessing the quality of education in crisis conditions is a crucial task that demands the concerted efforts of educators, researchers, and education policy representatives. Prospects for further research lie in the development of novel evaluation methods that consider the specific characteristics of crisis situations. Despite the challenging circumstances, Ukraine demonstrates a high level of adaptation of its educational system to contemporary challenges. Thanks to increased funding and the implementation of digital technologies, it has been possible to maintain the accessibility of education and support its quality. Innovations play a vital role in overcoming the crisis, enabling the expansion of educational opportunities for pupils and students even in the most difficult circumstances. Continued financial support, the development of digital platforms, and the integration of international experience will contribute to the further strengthening of Ukraine's educational system.

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МОВНО-ІСТОРИЧНІ ПРОЦЕСИ ЛІНГВІСТИЧНОЇ НАУКИ

Анотація. Стаття присвячена аналізу мовно-історичних процесів у розвитку лінгвістичної науки. Автор досліджує основні етапи становлення мовознавства, починаючи від античності до сучасності, звертаючи увагу на внесок видатних учених, які заклали основи лінгвістичних теорій і методів дослідження. Особлива увага приділяється формуванню ключових концепцій, що стали фундаментом для розуміння мови як динамічного явища.

Розглядаються мовні процеси в історичному контексті, включаючи еволюцію мов під впливом суспільно-історичних змін, формування мовних сімей, національних мов і діалектів. Окремий акцент здійснено на міжмовній взаємодії, зокрема на явищах запозичень, мовної асиміляції та утворенні змішаних мов.

У статті аналізуються як внутрішні, так і зовнішні чинники, що впливають на мовні системи в різні епохи. Сучасні тенденції лінгвістичних досліджень представлені через призму міждисциплінарного підходу, який охоплює інтеграцію лінгвістики з когнітивними науками, соціологією, нейролінгвістикою та інформаційними технологіями.

Окремо висвітлюється вплив глобалізації та цифровізації на мовні процеси, що зумовлює нові виклики для збереження мовного різноманіття.

У статті запропоновано перспективи розвитку лінгвістики у XXI столітті, зокрема в контексті адаптації до умов глобального світу та етичного використання мовних технологій.

Зазначено, що шляхи перспектив розвитку лінгвістики спрямовані на збереження мовних традицій через створення цифрових архівів, освітніх програм та онлайн-ресурсів для підтримки маловживаних мов.

Акцентована увага на тому, що інтеграція нових методологій у лінгвістику включає застосування штучного інтелекту для автоматичного аналізу текстів і синтезу мов, а також розвиток когнітивної лінгвістики у зв'язку з нейрон-науками для дослідження мовлення й мислення.

Ключові слова: лінгвістика, лінгвістична історія, українське мовознавство, лінгвофілософські вчення, цифровізація.

LANGUAGE-HISTORICAL PROCESSES OF LINGUISTIC SCIENCE

Abstract. The article is devoted to the analysis of linguistic and historical processes in the development of linguistic science. The author examines the main stages of the development of linguistics, from antiquity to the present, paying attention to the contributions of outstanding scientists who laid the foundations of linguistic theories and research methods. Special attention is paid to the formation of key concepts that have become the foundation for understanding language as a dynamic phenomenon.

Linguistic processes are considered in the historical context, including the evolution of languages under the influence of socio-historical changes, the formation of language families, national languages and dialects. Special emphasis is placed on cross-linguistic interaction, in particular on the phenomena of borrowing, language assimilation and the formation of mixed languages.

The article analyzes both internal and external factors affecting language systems in different eras. Current trends in linguistic research are presented through the prism of an interdisciplinary approach that encompasses the integration of linguistics with cognitive sciences, sociology, neurolinguistics, and information technology.

The impact of globalization and digitalization on language processes is highlighted separately, which leads to new challenges for the preservation of linguistic diversity.

The article offers prospects for the development of linguistics in the XXI century, in particular in the context of adaptation to the conditions of the global world and the ethical use of language technologies. The article states that the ways of the development of linguistics are aimed at preserving linguistic diversity by creating digital archives, educational programs and online resources to support little-used languages.

Attention is focused on the fact that the integration of new methodologies in linguistics includes the use of artificial intelligence for automatic text analysis and language synthesis, as well as the development of cognitive linguistics in connection with neurosciences for the study of speech and thinking. The use of big data contributes to the discovery of new patterns in languages that remained imperceptible before.

Keywords: linguistics, linguistic history, Ukrainian linguistics, linguistic and philosophical teachings, digitization.

INTRODUCTION

The problem formulation. Linguistics, as one of the key humanities disciplines, studies complex linguistic processes that reflect the structural, functional, and social dynamics of languages. These processes include the historical development of languages, their synchronous organization, and interaction with other knowledge systems. Thanks to the work of Saussure, Chomsky, Labov, Lakoff, and others, modern linguistics has powerful tools for studying language as a dynamic system that is constantly changing under the influence of cognitive, social, and cultural factors.

Language processes are the basis of linguistic science, as they provide an understanding of the mechanisms of functioning, development and interaction of language systems. The study of these processes allows us to investigate the patterns of linguistic behavior, the peculiarities of grammatical and lexical changes, as well as the influence of social, cognitive and cultural factors on language. Both domestic and foreign scholars have made a significant contribution to the development of these areas.

Thus, the problem of language processes in linguistic science is to study the interaction of language systems, their development and changes under the influence of cognitive, social and cultural factors.

Analysis of recent research and publications. Structuralism, initiated by F. de Saussure (Ferdinand de Saussure, 1998), laid the foundations of modern linguistics, in particular the concepts of synchronic and diachronic language analysis. His ideas about the systemic nature of language and the interdependence of elements became the basis for further research. On this basis, N. Chomsky (Noam Chomsky and (Chomsky), 1995) developed a transformational-generative grammar, focusing on the universal properties of language and the concepts of deep and surface structures that influenced cognitive approaches.

In pragmalinguistics, a significant contribution was made by J. Austin, who studied speech acts, and J. Searle, who systematized their types and analyzed the intentionality of speech (J. Austin).

In sociolinguistics, V. Labov studied the variability of speech in social groups, highlighting the influence of age, gender, and status.

In semantics, the key ideas are those of G. Frege on the logical analysis of meanings, developed by R. Montague, who proposed formal methods of describing semantics (Polyuzhyn M. M., 1999).

Ukrainian linguistics, based on the research of leading scholars, covers a wide range of areas, including the historical development and modern functioning of the language. Modern cognitive linguistics and functional grammar were developed by O. Selivanova, phraseology and discourse studies were developed by L. Fedorova. Practical aspects of grammar and teaching methods were developed by I. Yushchuk. Y. Kiyko analyzed translation studies and the interaction of language systems, A. Zahnitko focused on syntax and morphology, and A. Zelenko on semantics and pragmatics, studying the communicative organization of language.

AIM AND TASKS RESEARCH is to cover the linguistic historical processes of linguistic science in the following areas: the emergence and development of linguistics as a science, linguistic processes in the historical context, and current trends in linguistic research.

RESEARCH METHODS: method of researching innovative ways of studying linguistic processes, descriptive method, method of explanation and analysis, method of information collection.

RESULTS OF THE RESEARCH

So, let's trace the genesis and development of linguistics as a science. Linguistics as a science arose as a result of the human need to learn language, which is the most important means of communication and knowledge transfer. Its origins date back to antiquity, when the first attempts to analyze linguistic phenomena were made in philosophical, religious, and practical contexts.

In ancient India, a key role was played by the work of Panini (4th century BC), who in his treatise Ashtadhyahi created a detailed description of the Sanskrit language. The impact of this work on further linguistic research was significant, as it laid the foundations for a formalized analysis of language structure.

In ancient Greece, questions about the nature of language, its origin and functions were part of philosophical discussions. Thinkers such as Plato and Aristotle viewed language as a means of logical cognition of the world, which became an important foundation for the development of European linguistics.

In the Middle Ages, linguistic research was largely subordinated to theological goals, in particular the study of the "sacred languages" - Latin, Greek, and Hebrew.

The Renaissance marked the beginning of the systematic comparative analysis of languages, which became a prerequisite for the formation of comparative and historical linguistics.

In the eighteenth and nineteenth centuries, an important impetus for the development of linguistics was the discovery of the affinity between Indo-European languages (works by Wilhelm von Humboldt, Franz Bopp, and others). This contributed to the formation of linguistics as an autonomous science that uses its own research methods (Volpato Ch., Contarello A, 1999, p.241).

By focusing on linguistic processes in a historical context, we emphasize that language is a reflection of cultural, social, and political processes taking place in society. In different historical periods, linguistic phenomena have undergone changes that were determined by the internal laws of the language system and external factors such as migrations, wars, colonization, and cultural exchange. Particular attention should be paid to the evolution of languages and language families. Linguists have established that modern languages are descended from ancestral languages - languages that existed in the early stages of human history. The emergence of language families, such as Indo-

European, Turkic, Semitic-Hamitic, was the result of the breakdown of ancestral languages into separate dialects, which later formed independent languages. The comparative historical method developed in the nineteenth century made it possible to reconstruct ancestral languages and trace their development over time (Bopp, 1816; Grimm, 1822).

The interaction of languages and contacts between peoples contributed to the exchange of linguistic elements, which is manifested in borrowings, the formation of mixed languages (e.g., creoles) and the emergence of intermediary languages (lingua franca). For example, in the Middle Ages, Latin played the role of an international language in Europe, and Arabic in the Islamic world. Processes such as bilingualism, lexical borrowing, and interference are characteristic of culturally rich epochs, such as the Renaissance or the period of colonization (Weinreich, 1953).

Language changes under the influence of socio-historical conditions contribute to the fact that they evolve not only as a result of internal changes, such as phonetic shifts or grammatical simplifications, but also due to external factors. For example, the political expansion of the Roman Empire contributed to the spread of Latin, from which the Romance languages later evolved. Similarly, in the twentieth century, English became a global language, causing processes of linguistic homogenization (Jane Austen Pride and Prejudice, 2010, p. 243).

Given historical changes, new languages are emerging and reviving. The disappearance of languages, which is often the result of assimilation or genocide, poses a threat to cultural diversity. According to UNESCO, approximately 40% of the world's languages are at risk of extinction. However, in recent decades, there have been attempts to revive certain languages, such as Hebrew or Irish, which is an example of the conscious influence of social movements on language policy (Fishman, 1991).

Thus, language processes in the historical context are a complex interaction between the internal evolution of language systems and external socio-cultural factors. Their study helps to understand not only the patterns of language development, but also deeper aspects of human history.

Current trends in linguistic research show that linguistics is significantly influenced by interdisciplinary approaches, technological progress, and globalization processes. This contributes to the expansion of its object of study, methodological tools and practical application. The main trends are the integration of linguistics with other sciences, language learning in the digital environment, and increased attention to the socio-cultural and cognitive aspects of language (Guizzo G., Alldred P., Foradada-Villar M. Lost in Translation, 1997).

Studies of interdisciplinarity show that linguistics actively cooperates with cognitive sciences, neurolinguistics, anthropology, sociology, and artificial intelligence. Cognitive linguistics studies how language reflects thinking, worldview, and cognitive processes (Lakoff & Johnson, 1980). For example, George Lakoff's concept of "frames" has become the basis for understanding how language affects the perception of reality. In turn, neurolinguistics, which uses functional magnetic resonance imaging (fMRI) and electroencephalography (EEG), studies brain activity during speaking, reading, and listening (Hickok & Poeppel, 2007).

The digitalization of linguistics is emerging due to the emergence of large amounts of data (Big Data) and methods of computer text analysis, which have given linguistics new opportunities. Corpus linguistics allows you to analyze huge amounts of text to identify patterns in the use of words, grammatical structures, and stylistic features.

In addition, machine learning and natural language processing (NLP) have made it possible to create automatic translation, text analysis, and speech recognition programs such as Google Translate or ChatGPT.

Sociolinguistics in the context of globalization has caused significant changes in language dynamics. English has become the dominant language in scientific, technological, and commercial spheres, threatening the extinction of many smaller languages. Sociolinguists study the phenomena of multilingualism, language shift, identity, and language policy in a global world (Crystal, 2003).

Thus, modern linguistics is a dynamic science that responds to the challenges of technological, social, and cultural development. Integration with other disciplines and the use of digital technologies not only expand the boundaries of linguistic research, but also contribute to its practical application.

The essence and prospects of linguistics development in the twenty-first century is that the linguistics of the twenty-first century is developing in conditions when globalization, technological progress and social challenges form new directions of research and applied use of linguistic knowledge. Globalization and the preservation of linguistic diversity lead to the dominance of English as a language of international communication, which threatens less common languages. According to UNESCO, about 50% of languages may disappear by the end of the century. An important task for linguists is to develop programs to document, preserve, and revive such languages.

Digitalization plays an important role in the development of linguistics, opening up new opportunities for learning and using language. Natural language processing (NLP), machine translation, voice assistants, and big data analysis are expanding the practical application of linguistic knowledge. At the same time, this requires addressing the issues of accuracy, quality, and ethical use of language data. Ethical challenges in the use of language technologies are an important component. The development of artificial intelligence systems and linguistic algorithms raises issues of data bias, user privacy, and responsible use of technology. For example, algorithms can reinforce social stereotypes due to imperfect training data.

The way forward for linguistics is to preserve linguistic diversity by creating digital archives, educational programs, and online resources to support lesser-used languages.

The integration of new methodologies into linguistics includes the use of artificial intelligence for automatic text analysis and language synthesis, as well as the development of cognitive linguistics in connection with neuroscience to study speech and thinking. The use of big data helps to identify new patterns in languages that were previously invisible.

Ethical regulation of language technologies involves setting transparency standards, developing codes of ethics for developers, and conducting independent audits of NLP algorithms to prevent bias and ensure responsible use of language data.

An interdisciplinary approach to linguistics involves collaboration with sociology, anthropology, and other sciences to analyze language processes in a deeper way in the socio-cultural context. This approach allows us to study the influence of language on the formation of collective consciousness, identity, and behavior.

In the twentieth century, the key milestones in the development of linguistics were the structural approach (Ferdinand de Saussure, "Course in General Linguistics"), the functional theory of language (Roman Jakobson), and the development of psycholinguistics, cognitive linguistics, and sociolinguistics.

The current stage of linguistics development is characterized by the integration of knowledge from related fields such as anthropology, neuroscience, and artificial intelligence, which expands the possibilities of analyzing linguistic phenomena.

Thus, linguistics has evolved from philosophical speculation to a modern interdisciplinary science that studies language in all its diversity.

In the field of semantics, the works of Gottlob Frege are important, as he laid the foundations for the modern understanding of the logical analysis of meanings. His ideas were developed by Richard Montague, who proposed formal methods for describing the semantics of linguistic expressions.

Cognitive linguistics, which analyzes the relationship between language and thought, was developed through the work of George Lakoff and Mark Johnson. Their theory of conceptual metaphor explains how abstract concepts are formed through metaphorical thinking. The study of linguistic typology was significantly developed by Joseph Greenberg, who developed a method for classifying languages according to typological features. His work allowed for a better understanding of universal linguistic patterns.

Thus, foreign scholars have made a significant contribution to the development of linguistic science, analyzing language processes from various theoretical and practical perspectives. Ukrainian linguistics, based on the research of leading scholars, demonstrates a wide range of areas of language study, covering both its historical development and modern aspects of functioning.

Karpenko Yu. O., as one of the leading Ukrainian linguists, studied the history and development of Slavic languages, in particular Ukrainian. His scientific activity contributed to the understanding of the evolution of language systems, determining the place of the Ukrainian language among other Slavic languages. Kobylyansky B. V. made a significant contribution to the development of grammar, syntax and lexicology of the Ukrainian language, studying its structural features. Kovalyk I. I., in turn, focused on syntax and stylistics, exploring the means of expressiveness of the Ukrainian literary language (Ageeva V.P., Kobelyanska L.S.,2004).

Historical aspects of the Ukrainian language were deeply studied by S. P. Samiylenko, who studied etymology, historical grammar and the peculiarities of the formation of the Ukrainian language in a historical context. The theoretical foundations of linguistics were the subject of analysis by M. P. Kocherhan, who studied the functioning of language systems and their general laws. S. V. Semchynskyi contributed to the study of phonology, stylistics and general linguistics, in particular in the field of phonetic organization of language.

In the field of modern linguistics, the achievements of such scientists as Selivanova O. O., who is a leading specialist in cognitive linguistics and functional grammar, are important.

Practical aspects of Ukrainian grammar, its teaching and methodological support were developed by Yushchuk I. P.. The interaction of language systems, in particular the issues of translation studies, is analyzed by Kiyko Yu. E., and the syntax and morphology of language structures were studied by Zagnitko A. P..

Finally, Zelenko A. S. works on the study of semantics and pragmatics, revealing the patterns of semantic organization of language in modern communicative conditions (Ageeva V. P., Kobelyanska L. S., 2004, pp. 237-243).

All these scientists jointly develop Ukrainian linguistics, contributing both to the understanding of its past and the search for new perspectives in modern linguistics.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, we can note that the language-historical processes of linguistic science are an important aspect for understanding the evolution of linguistics as a discipline.

The prospects for the development of linguistics in the 21st century include adaptation to globalization and technological challenges that require new approaches to preserving linguistic diversity, the ethical use of language technologies, and the development of interdisciplinary methods for a deeper understanding of linguistic phenomena.

Therefore, the prospects for the development of linguistics in the 21st centurylie in the plane of combining theoretical research with practical tasks. Globalization and digital technologies open up new horizons, but at the same timepose challenges to the preservation of linguistic diversity and the ethical use of technologies. Linguistics must adapt to the modern world, maintaining a balance between innovation and humanitarian values.

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ІСТОРІОГРАФІЯ УКРАЇНСЬКОЇ НАУКИ У ВИМІРІ ПЕДАГОГІЧНИХ ПОГЛЯДІВ І ОСВІТНЬОЇ ДІЯЛЬНОСТІ ПОЛЬСЬКИХ ПЕРСОНАЛІЙ – ІДЕЙНИХ НАТХНЕННИКІВ І РЕАЛІЗАТОРІВ ЗДОРОВ'ЯЗБЕРЕЖУВАЛЬНОГО ВИХОВАННЯ ДІТЕЙ ТА ЮНАЦТВА

Анотація. Актуальність теми статті зумовлюється потребою ґрунтовно осмислити нагромаджений в українській педагогічній науці масив наукових праць про розвиток зарубіжної педагогічної думки. Мета наукового дослідження полягає в здійсненні структурно-функційного аналізу джерел педагогічної біографістики, реалізованих українськими дослідниками, щодо практичної спадщини визначних польських персоналій, які були ініціаторами, пропагандистами і реалізаторами здоров'язбережувального виховання дітей та юнацтва, визначенні інформаційного потенціалу і особливостей цих джерел, висвітленні змісту персоніфікованого напряму української педагогічної компаративістики у зазначеному контексті. У процесі наукового пошуку використано такі методи: джерельна (бібліографічна) евристика; метод головного масиву в поєднанні з вибірковим методом; контент-аналіз; порівняння; персоналістично-біографічний; метод аналізу системи знань; порівняльно-зіставний. Поточнено поняттєвий інструментарій (термін «історіографія»; сутнісні засади педагогічної біографістики як важливого напряму історико-педагогічної науки України), схарактеризовано історіографічний вимір студій про зарубіжні педагогічні персоналії.

Актуалізовано думку про те, що в історії розвитку проблеми здоров'язбереження людини особливе місце посідають окремі постаті, які у значній мірі збагатили цю ділянку праці і надати їй відповідне спрямування. Здійснено контент-аналіз вітчизняних історико-педагогічних розвідок, присвячених педагогічному виміру розв'язання означеної проблеми в країнах закордоння загалом (Н. Василенко, С. Кириленко, О. Лях Породько, В. Єфімова, Т. Паничок, В. Кукса, С. Цьома, О. Дмітрієва, А. Бєсєдіна, В. Люльченко, Л. Клос, І. Турчик та ін.) і у Польщі зокрема (А. Вихрущ, І. Даценко, І. Нестайко, Т. Повалій, В. Струманський, Н. Філіппенко, Б. Чередрецька, В. Шатило та ін.). Проаналізовано наукові статті, монографії і дисертації українських учених, в яких у персоніфікованому форматі висвітлено проблему здоров'язбережувального виховання дітей та юнацтва (Т. Бережна, Г. Білавич, Е. Вільчковський, Р. Гах, В. Герасимчук, І. Зубрицький, С. Іщук, О. Карпенко, І. Мордвінова, М. Пантюк, В. Пасічник, Б. Савчук, Л. Сливка, Г. Терещук, А. Цьось, М. Чепіль, Б. Шиян, О. Янкович та ін.).

Констатовано, що історико-педагогічний сегмент праць українських дослідників, які розглядаємо як рефлексії проблеми здоров'язбережувального виховання дітей та юнацтва у Польщі, наповнюється дедалі новими темами – датами, фактами, подіями і, відповідно, персоналіями. Разом з тим, відзначено, що коло вітчизняних напрацювань, в яких системно висвітлено історичні аспекти здоров'язбережувальної освітньо-виховної діяльності в Польщі, дуже вузьке, відтак рано ще говорити про значні результати. Увиразнено перспективне поле для подальших напрямів наукових пошуків у царині педагогічної біографістики.

Ключові слова: закордонний поступ освітньої діяльності, зарубіжна педагогічна думка, здоров'язбережувальне виховання, історіографія, українські історико-педагогічні праці, педагогічна біографістика, педагогічна персоналія, порівняльні студії.

HISTORIOGRAPHY OF UKRAINIAN SCIENCE IN THE DIMENSION OF PEDAGOGICAL VIEWS AND EDUCATIONAL ACTIVITIES POLISH PERSONALITIES – IDEOLOGICAL INSPIRERS AND IMPLEMENTERS OF HEALTH-PRESERVING EDUCATION OF CHILDREN AND YOUTH

Abstract. The relevance of the topic of the article is determined by the need to thoroughly comprehend the accumulated body of scientific works on the development of foreign pedagogical thought in Ukrainian pedagogical science. The purpose of the research is to carry out a structural and functional analysis of the sources of pedagogical biography implemented by Ukrainian researchers regarding the practical heritage of prominent Polish personalities who were initiators, promoters and implementers of health-preserving education of children and youth, to determine the information potential and features of these sources, to highlight the content of the personified direction of Ukrainian pedagogical comparative studies in this context. The following methods were used in the research process: source (bibliographic) heuristics; master data set method combined with the sampling method; content analysis; comparison; personalistic-biographical; knowledge system analysis method; comparative and contrastive. The conceptual tools (the term «historiography»; the essential principles of pedagogical biography as an important area of historical and pedagogical science of Ukraine) are updated, the historiographical dimension of studies on foreign pedagogical personalities is characterised.

The idea that in the history of the development of the problem of human health-preserving a special place is occupied by individual figures who have significantly enriched this area of work and given it an appropriate direction is actualised. A content analysis of domestic historical and pedagogical studies devoted to the pedagogical dimension of solving this problem in foreign countries in general (N. Vasylenko, S. Kyrylenko, O. Liakh Porodko, V. Yefimova, T. Panychok, V. Kuksa, S. Tsioma, O. Dmitrieva, A. Biesiedina, V. Liulchenko, L. Klos, I. Turchyk, etc.) and in Poland in particular (A. Vykhrushch, I. Datsenko, I. Nestayko, T. Povalii, V. Strumanskyi, N. Filipenko, B. Cheredretska, V. Shatylo, etc.). The article analyses scientific articles, monographs and dissertations of Ukrainian scientists, which highlight the problem of health-preserving education of children and youth in a personalised format (T. Berezhna, H. Bilavych, E. Vilchkovskyi, R. Hakh, V. Herasymchuk, I. Zubrytskyi, S. Ishchuk, O. Karpenko, I. Mordvinova, M. Pantiuk, V. Pasichnyk, B. Savchuk, L. Slyvka, H. Tereshchuk, A. Tsos, M. Chepil, B. Shyian, O. Yankovych, etc.)

It is stated that the historical and pedagogical segment of the works of Ukrainian researchers, which are considered as reflections on the problem of health-preserving education of children and youth in Poland, is filled with more and more new topics – dates, facts, events and, accordingly, personalities. At the same time, it is noted that the range of domestic developments that systematically cover the historical aspects of health-preserving education activities in Poland is very narrow, so it is too early to talk about significant results. The article identifies a promising field for further research in the field of pedagogical biography.

Keywords: foreign progress of educational activity, foreign pedagogical thought, health-preserving education, historiography, Ukrainian historical and pedagogical works, pedagogical biography, pedagogical personnel, comparative studies.

INTRODUCTION

The problem formulation. Among the tasks of the systemic reform of education in Ukraine, which is taking place in the context of European priorities, a significant place is occupied by the expedient implementation of health-preserving education (hereinafter referred to as HpE) for children and youth. A comprehensive study of this area of educational and organisational activity implies the need to predict certain innovations in Ukrainian health education, taking into account the foreign research field. The experience of scientists and educators from the Republic of Poland is worthy of attention in this regard.

It is reasonable that studying and analysing the development of children's and adolescents' healthy lifestyle in Poland is connected with the study of the personal plane of this problem within the personalistic approach. The Polish scientist A. E. Odzywolska-Kidawa (pol. Anna Ewa Odzywolska-Kidawa notes that in the history of the development of the problem of human health, a special place is occupied by individuals who can significantly enrich this area of work and give it an appropriate direction, thanks to the scientific knowledge and charisma of these individuals, the number of people who adhere to certain standards of health preservation is constantly growing, and this, in turn, affects the state of health of society overall (Odzywolska-Kidawa, 2016).

In all historical periods of Poland's development as a state, there were individuals who joined the health movement and concretised the essence of HpE of children and adolescents through their own theoretical conclusions and practical activities. Therefore, it is quite logical that the analysis and generalisation of pedagogical creativity and organisational and practical activities of individual scientists, government and public figures, teachers, etc. have become an integral part of historical and pedagogical research by Ukrainian researchers.

Since this article provides for a direct consideration of scientific studies on the problem of pedagogical biography, we note that this content has been analysed by a number of authors of monographs and dissertations in terms of the subject of their research (V. Andrushchenko, L. Vakhovskyi, O. Habelko, L. Murmurash, I. Rozman, N. Fedchyshyn, I. Tsebrii, O. Shparyk, etc.) However, the historiography of the problem of pedagogical personalities – the creators of health-preserving education of children and youth in Poland – has not been the subject of a special holistic study. Thus, the scientific relevance and practical significance of the problem raised in our article is determined by the contradiction between the accumulated body of work on cultural and educational figures of foreign countries who are of interest as pedagogical personalities and the insufficient study of this work in the context of the problem of health education. The proposed study brings this contradiction closer to resolution.

AIM AND TASKS RESEARCH

The aim – is to carry out a structural and functional analysis of the sources of pedagogical biography implemented by Ukrainian researchers regarding the practical heritage of prominent Polish personalities who were initiators, promoters and implementers of health-preserving education of children and youth; to determine the information potential and features of these sources; to highlight the content of the personified direction of Ukrainian pedagogical comparative studies in this context.

RESEARCH METHODS

The implementation of the set goal was carried out using a set of research methods, in particular: source (bibliographic) heuristics – to identify and systematize the entire array of historical and pedagogical research; the main array method in combination with the selective method – to select sources according to a number of criteria; comparison – to identify common and specific concepts related to the problem of education for health, which are updated in Ukrainian historical and pedagogical science; personalistic-biographical – to analyze the scientific creativity and practical achievements of representatives of the Polish community in the field of students' HpE; the method of knowledge system analysis – to provide a systematic comprehensive approach to assessing the creative achievements of a teacher as a system, concept, set of individual ideas and views, etc.; comparative and contrastive – for drawing conclusions.

RESULTS OF THE RESEARCH

First of all, let's clarify the conceptual tools. Regarding the term «historiography», we understand it in a narrow sense and interpret it as a set of historical and pedagogical studies, research, scientific literature that have a common spatial and chronological localisation and subject area of research, and «works of historical and pedagogical format» are understood as those that in their content and essence were the result of the work of its author, who acted as a creator of the text, interpreter of historical, pedagogical and other sources (Slyvka, 2022, p. 86-87). An important point of reference for our study is the conclusions of scientists about the object of pedagogical biography as a branch of historical and pedagogical science – it is a pedagogical personality in the diversity of its relations with the socio-cultural environment of a particular historical era, the unity of its individual and social, reflected in the life path and results of social activity, in creative work (Rozman, 2020, p. 45).

Structural and functional analysis of sources was carried out according to the subject classification scheme of their division into certain subject (thematic) profiles, such as: the history of pedagogical thought and the educational movement regarding the problem of preserving the health of children and youth; reflection in the work of personalities of reflections on physical, hygienic, anti-alcohol education as components of health-preserving education; biography of prominent Polish personalities who were initiators, propagandists and implementers of health-preserving education of students; pedagogical personalities as participants in public institutions of the corresponding direction; pedagogical personalities as authors of texts on the analysis of the content of school curricula in the context of health topics.

The scientific search has shown that a significant increase in the number of historical and pedagogical studies on the problem of health preservation of children and youth in its pedagogical dimension dates back to the late 1990s. This period saw radical changes in the social consciousness and humanitarian sphere of Ukraine, which stimulated the recovery from oblivion of many names of well known and lesser known teachers, scientists, and educators who contributed to the development of national education and pedagogical thought (Rozman, 2020, p. 6). The gradual integration of the Ukrainian state into the European space creates a demand for studying the foreign progress of educational activities in the context of the health of a growing personality (N. Vasylenko (2000); S. Kyrylenko (2004); O. Liakh Porodko (2009); V. Yefimova (2010); T. Panychok (2010); V. Kuksa (2011); S. Tsioma (2014); O. Dmitrieva (2015); A. Biesiedina (2015); V. Liulchenko (2016); L. Klos (2017); I. Turchyk (2021), etc.). There are a number of works on highlighting individual profiles of the Polish experience of forming a healthy lifestyle in students and teacher training in this context (B. Cheredretska (1997); V. Strumanskyi (1998); I. Datsenko (2008); I. Nestaiko (2010); T. Povalii (2011); N. Filippenko (2011); V. Shatylo, V. Kopetchuk, O. Horai (2011); A. Vykhrushch (2020), etc.)

Given that in the interwar period of the XX century, Eastern Galicia was part of Poland, the research, the subject of which chronologically covers the 1920s and 1930s and geographically concerns the Western Ukrainian lands, is in some way related to the issues of our study. We would like to make a special mention of the researchers whose contribution to the study of pedagogical personalities involved in various aspects of health-promoting educational activities in Western Ukraine in the late XIX – first third of the XX century, The most prominent are M. Pantiuk (Pantiuk, 1998), B. Savchuk (Savchuk, 2001), V. Herasymchuk (Herasymchuk, 2017), I. Zubrytskyi (Zubrytskyi, 2018), T. Trach (Trach, 2018), H. Bilavych (Bilavych, 2021) and others.

The scientific and biographical studies of S. Ishchuk (2002) and M. Chepil (2009) on Janusz Korczak, O. Karpenko on Henryk Jordan (Karpenko, 2016), H. Tereshchuk and O. Yankovych on Vincent Okon (Tereshchuk & Yankovych, 2021), and O. Yankovych on Maria Lopatkova (Yankovych, 2020), etc. The works of these scholars reflect the life path, educational, scientific, educational, and other activities of prominent representatives of the Polish community who have also proven themselves in the field of health-preserving education.

Bright pages in the development of the national historical and pedagogical science were written by the authors of dissertation studies, which revealed certain problems related to the presentation of the genesis of physical education of a young person in Poland. In this sense, we consider significant the dissertations of V. Pasichnyk «Training of Physical Education Teachers in Poland (second half of the XIX – early XXI century)» (Pasichnyk, 2010) and R. Hach «The System of Physical Education of Youth in Ukrainian and Polish Secondary Schools (second half of the XIX – early XX century)» (Hach, 2012). A significant contribution to the study of world pedagogical thought on the problems of physical education of students was made by E. Vilchkovskyi, B. Shyian, A. Tsos and V. Pasichnyk – authors of the monograph «The System of Physical Education of Pupils of Secondary Schools in Poland and Ukraine (XVI – Early XXI Century): A Comparative Analysis» (Vilchkovskyi, Shyian, Tsos & Pasichnyk, 2016).

Among the scientific developments that to a certain extent contributed to the development of Ukrainian pedagogical biography, we note I. Mordvinova's dissertation «Organisational and Pedagogical Foundations of Health Education of Primary School Students in Modern Poland» (Mordvinova, 2015) – we consider the study to be a guide for assessing the structure of the HpE of students in grades I-III of secondary schools in Poland in the current conditions and Polish pedagogical thought in this context. The monograph by O. Yezhova, A. Biesiedina and T. Berezhna «Health Promotion Schools in Eastern Europe: Theory and Practice» (Yezhova, Biesiedina & Berezhna, 2016) is also worthy of attention, which contains important information about the stages of development and models of activity of health promotion schools in modern Poland, a list of international conferences held under the auspices of the WHO that influenced the formation of the European Network of Health Promotion Schools.

Perhaps the most «personalized» in relation to the problem to which the article is devoted is the author's monograph «Health-preserving Education of Pupils of Secondary Schools in Poland (XX – Early XXI Century)» (Slyvka, 2022). In particular, this work highlights the educational activities and pedagogical views of more than 180 Polish personalities in terms of reflecting the problem of children and youth's HpE in their pedagogical work and practice. In addition, a retrospective analysis of about three dozen foreign figures, scientists, and educators of different historical epochs – Antiquity, the Middle Ages, the Renaissance, the Enlightenment, Romanticism, and Modern History – was carried out in terms of the reflection of health-preserving initiatives in their creative and pedagogical activities: Alcmaeon (Croton), Pythagoras, Hippocrates, Aristotle, Claudius Galen, Asclepiades (Athens), Aulus Cornelius Celsus, Ibn Sina (Latinised – Avicenna), Arnold of Villanova, Vittorino da Feltre, Erasmus of Rotterdam, Thomas More, Francois Rabelais, Joachim Camerarius (the Elder), Roger Ascham, Jerome Mercurialis, Richard Mulcaster, Jan Amos Comenius, John Locke, Jean Jacques Rousseau, Claude Hadrian Helvetius, Johann Heinrich Pestalozzi, Johann Bernhard Bazedow, Johann Christoph Friedrich GutsMuths, Per Henrik Ling, Jalmar Fredrik Ling, and others.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Consequently, the conducted scientific search has shown that the historiography of Ukrainian pedagogical science presents a significant body of research that highlights the achievements of foreign pedagogical personalities in the field of educational philosophy and history from different perspectives (this separate interdisciplinary research area is called «pedagogical biography»).

The historical and pedagogical segment of research by Ukrainian researchers, which we consider to be reflections on the problem of the HpE of children and youth in Poland, is filled with new topics – dates, facts, events and, accordingly, personalities. The aforementioned works to some extent represent the active manifestations of individual Polish personalities in the educational and cultural space. Representatives of the Ukrainian scientific community have contributed to the study of well-known Polish thinkers of the XX – early XXI centuries as pedagogical personalities, in general terms, identified and analysed the factors of life of personalities, their creative achievements, the content of professional and social activities, etc. We consider that due to the introduction of this circle of figures into scientific circulation, a new level of personification of the history of the development of education and pedagogical thought abroad has been achieved. In general, we can say that the dynamic development of comparative studies on the life and creative ideas of Polish personalities reflects their profile orientation, when individual, similar in content ideas and views of figures are compared, etc.

At the same time, studies of the thematic profile related to the contribution of representatives of the Polish community to the theory and practice of HpE can hardly be called comprehensive and systematic, and this content is covered in domestic science in a rather fragmentary way. The group of modern Ukrainian scholars who would comprehensively and systematically deal with the problem of historical aspects of health-preserving education activities in Poland is very narrow, so it is too early to talk about significant results.

The study opens up a promising field for further research in the field of pedagogical biography. There is a need to improve the methodological experience and technology of preparing research on pedagogical personalities. An ongoing task of Ukrainian pedagogy is to compile an anthology of pedagogical thought on the issue of the health-preserving education of children and youth, and in this regard, scientific research should be directed to a thorough study of the personalistic component of the theory and practice of health-preserving education of secondary school students in Poland. We see prospects for further research in studying the work of Ukrainian scholars on prominent representatives of foreign pedagogical thought in terms of the problem of educational approaches to solving the problem of health-preserving of children and youth in different historical periods.

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ЗМІСТОВИЙ КОМПОНЕНТ ПРОФЕСІЙНОЇ ПІДГОТОВКИ ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ В ПЕРІОД СТАНОВЛЕННЯ НЕЗАЛЕЖНОЇ УКРАЇНИ

Анотація. У статті проаналізовано зміст професійної підготовки здобувачів вищої освіти у закладі вищої освіти в період становлення незалежної України. Розглянуто трансформацію змісту освіти, вплив міжнародних освітніх процесів, формування освітніх стандартів та пріоритетів модернізації, які визначили подальший розвиток освітнього середовища України.

Дослідження показало, що за час становлення української системи вищої освіти змістовий компонент професійної підготовки фахівців зазнав суттєвого перегляду як у структурному, так і в змістовному аспектах, зокрема:

- переосмислено поняття змісту освіти, що зумовило формування багаторівневої структури освітніх програм, яка передбачала чіткий поділ на три ключові складові: фундаментальну, професійно-орієнтовану та варіативну підготовку;
- запроваджено компетентнісний підхід до навчання;
- розширено практико-орієнтовану складову змісту освіти;
- інтегровано гуманітарну складову;
- здійснено адаптацію української освіти до європейських освітніх стандартів;
- посилено міждисциплінарність та адаптивність змісту освіти до потреб сучасного професійного середовища;

- посилено національний компонент у змісті вищої освіти.
Основними характеристиками змісту професійної підготовки на сучасному етапі є: модульна та компетентнісна структура освітніх програм; збалансованість між теоретичною та практичною складовими підготовки студентів, варіативність освітніх програм; міждисциплінарність та гнучкість змісту; діджиталізація освітнього середовища; інтернаціоналізація змісту освіти; гуманітарна та етична підготовка.
Зроблено висновок, що реформування змістової складової професійної підготовки фахівців у закладах вищлї освіти України в 1990-х роках – на початку XXI століття супроводжувалося глибокими структурними та методологічними змінами. Ці трансформації були зумовлені необхідністю побудови власної освітньої політики, орієнтованої на гуманізацію, компетентнісний підхід, демократизацію та інтеграцію в європейський простір. Незважаючи на виклики і труднощі впровадження реформ, було закладено основи сучасної багаторівневої моделі підготовки фахівців, адаптованої до потреб ринку праці та соціокультурних змін.
Ключові слова: змістовий компонент, здобувачі вищої освіти, заклад вищої освіти, незалежна Україна, професійна підготовка, освітня програма, ціннісні орієнтації, національний компонент, компетентнісний підхід, інтеграція, діджиталізація, міждисциплінарність.

CONTENT COMPONENT OF PROFESSIONAL TRAINING OF HIGHER EDUCATION APPLICANTS IN THE PERIOD OF FORMATION OF INDEPENDENT UKRAINE

Abstract. The article presents an analysis of the content of professional training of higher education students in a higher education institution during the period of formation of independent Ukraine. The transformation of the content of education, the influence of international educational processes, the formation of educational standards and the priorities of modernisation, which determined the further development of the educational environment of Ukraine, are considered.
The study has shown that during the formation of the Ukrainian higher education system, the content component of professional training has undergone a significant revision in both structural and content aspects. In particular:
- the concept of educational content was redefined, which led to the formation of a multi-level structure of educational programmes, which provided for a clear division into three key components: fundamental, professionally oriented and variable training;
- a competence-based approach to learning was introduced;
- the practice-oriented component of the education content was expanded;
- the humanitarian component was integrated into the structure of professional training;
- Adaptation of Ukrainian education to European educational standards was carried out;
- interdisciplinarity and adaptability of the content of education to the needs of the modern professional environment were enhanced;
- the national component in the content of higher education has been intensified.
The main characteristics of the content of professional training at the present stage are: modular and competence-based structure of educational programmes; balance between theoretical and practical components of student training, variability of educational programmes; interdisciplinarity and flexibility of content; digitalisation of the educational environment; internationalisation of educational content; humanitarian and ethical training.
It is concluded that the reform of the content component of professional training in Ukrainian higher education institutions in the 1990s – early twenty-first century was accompanied by profound structural and methodological changes. These transformations were driven by the need to build its own educational policy focused on humanisation, competence-based approaches, democratisation and integration into the European space. Despite the challenges and difficulties of implementing the reforms, the foundations of a modern multi-level model of training adapted to the needs of the labour market and socio-cultural changes were laid.
Keywords: content component, higher education students, higher education institution, independent Ukraine, professional training, educational programme, value orientations, national component, competence-based approach, integration, digitalisation, interdisciplinarity.

INTRODUCTION

The problem formulation. After the declaration of independence in 1991, Ukraine's higher education system faced the need to fundamentally rethink its functions, values and organisational foundations. Moving away from the centralised Soviet model, which was based on ideological dogmas and command-and-control approaches, the national education system began to develop towards a democratic, open and socially oriented model. In this process, the problem of rethinking the content component of professional training as one of the main factors in ensuring the quality of higher education has become particularly relevant.

The professional training of higher education students in the 1990s had to take into account new social demands, labor market challenges, integration processes in Europe, and globalization trends. This necessitated revising the traditional content of education, introducing a competency-based approach, strengthening the humanitarian component, and integrating theoretical knowledge with practical training.

Analysis of recent research and publications. The problems of development of vocational education in general and vocational teacher education in particular have been studied and are being studied by many domestic and foreign scholars. Thus, in general theoretical terms, the problems of teacher training were deeply studied by V. Bondar. O. Dubaseniuk, I. Ziaziun, V. Kremen, O. Tsiuniak, and others. Fundamental developments in the field of theory, philosophy and sociology of education, study of teacher's personality, as well as training were carried out by V. Andrushchenko, M. Boychenko, S. Klepko and others. The issues of the nature and content of the activities of professional and pedagogical workers, as well as the problems of their training were considered in the works of H. Bilavych, N. Nychkalo, L. Prokopiv, V. Stynska, O. Kirdan, V. Frytsiuk, and others.

THE PURPOSE OF THE RESEARCH – analysis of the content component of professional training of higher education students in higher education institutions of Ukraine in the period of formation of an independent educational system.

RESULTS OF THE RESEARCH

In the post-Soviet period, the humanisation of higher education content has become not only a theoretical slogan, but a concrete challenge to rethink the philosophy of education. In practice, the structure of educational content shifted from ideological subjects to a humanistic model with an emphasis on personal development and professionalisation (Zyazyun & Sukhomlynska, 1997, p. 57). This was accompanied by the introduction of state educational standards, which were supposed to ensure unified requirements, transparency of results and unity of the educational space within the country (Luhovyi & Talanova, 2000).

During the period of formation of the Ukrainian higher education system, the content component of professional training has undergone a significant revision in both structural and content aspects. These changes were caused by both internal transformations related to the declaration of independence and external influences, in particular, globalisation processes and integration into the European education area.

First of all, there was a rethinking of the concept of education content, which became not only a set of knowledge and skills, but a holistic system that reflects the competences, personal qualities, values and social responsibility of the future specialist (Bondar, 2003). This led to the formation of a multi-level structure of educational programmes, which included a clear division into: fundamental training - general cycle disciplines that form a broad worldview base; professionally oriented training - courses that provide specialised professional training; Variable component - disciplines of the student's or HEI's choice, which allow adapting the educational trajectory to individual needs or regional/market demands (Luhovyi & Talanova, 2000).

This approach ensured that the curriculum was individualised and met the requirements of the modern labour market and the graduate's professional flexibility. It also helped to balance the academic, practical and personality-oriented components of training.

One of the defining features of the period was the introduction of a competency-based approach. In contrast to the traditional knowledge paradigm that dominated Soviet education, the new model focused on achieving specific learning outcomes – formed competences that ensure readiness for professional activity, self-education and adaptation to change (Bondar, 2003).

Another important stage of the reform was the expansion of the practice-oriented component of the education content. Attention was paid to internships, work placements, courses with the participation of invited production specialists, and dual forms of education. This reflected the need to connect with the labour market and the need to develop so-called «soft skills» – communication, analytical, and organisational skills.

As part of the structural changes, content was also demonopolised: HEIs gained greater autonomy in developing curricula, creating their own discipline programmes, and developing interdisciplinary courses. In this way, they began to play an active role in shaping educational content that met the realities of regional and sectoral needs.

Special attention should be paid to the integration of the humanitarian component into the structure of professional training. The humanisation of education, as described by I. Zyazyun and O. Sukhomlynska (1997), led to the inclusion of disciplines in philosophy, sociology, history, ethics, religious studies, Ukrainian and world culture in the curricula of not only humanities, but also technical and natural sciences.

Since the early 2000s, the issue of adapting Ukrainian education to European standards has become more relevant. State standards of higher education were seen as an important means of state regulation of the quality of education. They were supposed to ensure the unity of the educational space, equal access to quality education and transparency of its assessment (Luhovyi & Talanova, 2000). Accordingly, integration into the European educational space raised the question not only of changing the forms, but above all of changing the content of education' (Talanchuk, 2002, p. 15). In this context, the educational system began to be seen as a factor of social development and modernisation of the country (Kremen, 2005).

The formation of professional competence has gained importance as a process of integration of knowledge, skills, abilities and value orientations necessary for effective professional activity (Bondar, 2003, p. 44).

Interdisciplinarity has become one of the key factors in updating the content of higher education. It allows students not only to have a deeper understanding of the subject matter, but also to consider professional problems in conjunction with other fields of knowledge, which makes critical and systemic thinking skills more relevant.

The interdisciplinary approach was implemented through: integrated training modules; joint courses for several specialities; project-based learning with the participation of teachers from different fields of knowledge.

This contributed to the formation of a flexible professional identity of the future specialist and adaptability to change.

An equally important component of the new educational paradigm was the adaptability of the learning content, which was ensured by the variability of curricula, selective blocks, a module-rating system of assessment, and flexible learning formats (blended, distance, dual, etc.).

Thus, structural changes in the content component of professional training reflected a system-wide shift towards quality, mobility, openness and interdisciplinarity. This became the basis for the transition of Ukrainian higher education from the traditional learning paradigm to a modern competence-based model.

Among the main documents that defined the strategic guidelines of the reform are the State National Programme «Education (Ukraine in the XXI century)» (1993), the National Doctrine of Education Development (2002) and the National Strategy for Education Development (2013). These programmes recognised the main priorities as updating the content of education, democratisation of the educational process, introduction of effective pedagogical technologies, integration of national and universal values, and involvement of leading scientists and specialists in the educational process (Sichkarenko, 2014, p. 53).

According to the Law of Ukraine «On Education», a three-tiered system of training was integrated into higher education: bachelor's, specialist's and master's degrees. This became a prerequisite for testing new educational and professional programmes in leading Ukrainian higher education institutions. However, at the initial stage of implementation, difficulties arose due to the lack of a regulatory framework, differences in curricula, and weak inter-institutional coordination (Sichkarenko, 2014, p. 55).

Updating the List of fields of study and specialities, which needed to be adapted to the international ISCED classification, also remained problematic. A significant step forward was the consideration of the experience of the Soviet school in combination with modern labour market requirements. Integrated areas of study were gradually introduced, allowing for professional retraining in a short time.

An important area of change was the strengthening of the national component in the content of higher education. This involved the active introduction of the state language, the development of courses on Ukrainian culture, history, folklore, source studies, sociology, etc. The share of Ukrainian studies in the teaching and methodological support increased, and new disciplines with a national context emerged. Thus, the nationalisation of education has become not only a political act, but also an important factor in the formation of students' identity (Sichkarenko, 2014, p. 64).

In the current conditions of socio-economic development, digitalisation, globalisation and integration into the European educational space, the content of professional training of students in Ukrainian higher education institutions is undergoing a qualitative update. Its main goal is to form a highly qualified, competitive, mobile and socially responsible specialist capable of effective professional activity, self-development and adaptation to changes. The main characteristics of the content of professional training at the present stage:

- Modular and competence-based structure of educational programs, where each module is aimed at forming a specific competence - general or professional.

- A balance between theoretical and practical components of student training, which is one of the defining trends in modern higher education. In the past, higher education in Ukraine tended to be predominantly academic and theoretical, with practical training often limited to formal internships. However, in response to labour market demands and international educational trends, since the 2000s, there has been an active reorientation of the content of education towards a practice-oriented model, which includes:

- introduction of practices and internships at enterprises, state institutions, cultural and scientific institutions.

- dual education is a modern model in which education takes place simultaneously in a higher education institution (theoretical knowledge) and at an enterprise (practical skills).

- Project-Based Learning. Within disciplines or interdisciplinary courses, students work on real or close-to-practice projects: business plans, technical developments, cultural or educational initiatives. This helps to develop teamwork, complex problem-solving skills, creative and critical thinking;

- case-based learning. Many specialities (law, economics, medicine, management) use real or modelled situations from professional practice. Students analyse cases, make decisions, and defend their positions, which brings learning as close as possible to the conditions of future professional activity.

- Simulation training and virtual laboratories. The use of digital technologies allows us to create virtual environments where students train on simulators (in medicine, aviation, engineering, IT). This is a safe environment for developing professional skills.

- Variability of educational programs: based on the principles of academic freedom, individualization and focus on the needs of the student's personality. The variable part of the educational program provides for the possibility of a student's conscious choice: individual disciplines, modules, forms of control, types of practice, and sometimes even the trajectory of coursework or qualification works. This approach contributes to the personalization of learning, when a student independently forms his or her educational trajectory in accordance with: individual interests, professional orientations, level of training, and future career goals.

Variability also provides for the possibility of: choosing disciplines from other educational programs; cross-registration between faculties; involvement in interdisciplinary courses or courses of other universities within the framework of academic mobility programs.

The introduction of variability has also become a tool for differentiating HEIs, as each institution has the opportunity to create unique educational offerings that reflect its scientific and pedagogical potential, partnerships with the labor market, regional needs, and strategic development goals.

- Interdisciplinarity and flexibility of content, which allows for a quick response to the challenges of time and labor market needs.

- Digitalization of the educational environment, which includes: integration of information and communication technologies (ICT) into all components of the educational process; use of distance learning platforms (Moodle, Google Classroom, Microsoft Teams, Zoom, Coursera, Prometheus, etc.); creation of e-learning courses, interactive modules, virtual laboratories; development of students' digital literacy as a key competence of a modern specialist. A special place is occupied by blended learning, which combines face-to-face and online learning. This format increases the flexibility of the educational process, allows you to adapt the pace of learning to the individual capabilities of the student, and develops independent work skills.

In the context of the COVID-19 pandemic, the digitalization process has accelerated significantly, demonstrating not only the need for but also the effectiveness of digital solutions. Today, it is no longer an additional option, but an integral part of professional training in higher education.

- Internationalization of the content of education, which is implemented through: participation of higher education institutions in international educational programs (Erasmus+, Horizon, Jean Monnet, DAAD, etc.); development of joint educational programs of double/triple diploma with foreign universities; teaching of certain disciplines in English (ESP - English for Specific Purposes); inclusion of global issues in the curriculum: Sustainable development, international law, intercultural communication, European integration; academic mobility of students and teachers, which facilitates the exchange of experience and mutual enrichment of educational practices. The internationalization of educational content allows to train a new type of specialist - open to intercultural interaction, able to work in an international environment, possessing global competencies and awareness of their role in the global professional community.

In addition, humanitarian and ethical training plays an important role in the modern content of education, forming a conscious citizen capable of social responsibility, critical thinking and ethical professional choices.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, the reform of the content component of professional training in Ukrainian higher education institutions in the 1990s and early twenty-first century was accompanied by profound structural and methodological changes. These transformations were driven by the need to build its own educational policy focused on humanization, competence-based approaches, democratization and integration into the European space. Despite the challenges and difficulties of implementing the reforms, the foundations of a modern multi-level model of training adapted to the needs of the labor market and socio-cultural changes were laid.

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ЗАДАЧНИЙ ПІДХІД ДО НАВЧАННЯ ПРОГРАМУВАННЯ В ШКОЛІ: МЕТОДИЧНІ ПІДХОДИ ТА ПРАКТИЧНА РЕАЛІЗАЦІЯ

Анотація. У статті проаналізовано задачний підхід до навчання програмування в школі. Розглянуто методичні підходи, що сприяють розвитку алгоритмічного мислення та практичних навичок учнів. Окреслено шляхи реалізації цього підходу із застосуванням сучасних цифрових інструментів. Особливу увагу приділено адаптації навчального матеріалу відповідно до рівня підготовки школярів.

Визначено актуальність дослідження, що полягає у необхідності добору відповідних завдань і середовищ програмування для кожного учня. Охарактеризовано основні підходи до вивчення програмування в школі: задачний, диференційований, діяльнісний та компетентнісний.

Проаналізовано дослідження щодо задачного підходу та його значення у навчанні програмування. Встановлено, що він сприяє розвитку алгоритмічного мислення, формуванню вмінь моделювати інформаційні процеси, аналізувати умови задачі, будувати алгоритми її розв'язання та реалізовувати їх мовами програмування. Наголошено на необхідності переходу від репродуктивного до творчого програмування.

Зазначено, що головною проблемою навчання програмування є відсутність системного підходу. Підкреслено важливість вивчення не лише синтаксису мов програмування, а й застосування знань для розв'язання реальних задач. Наведено приклад реалізації задачного підходу для учнів 8–11 класів на основі мови Lazarus із використанням блок-схем, алгоритмічних конструкцій і середовищ із візуальним відображенням виконання програм.

Розглянуто методи розв'язування задач у програмуванні, що включають побудову інформаційної моделі, розробку алгоритму та його реалізацію. Визначено етапи розвитку учнівських навичок – від репродуктивного до творчого рівня. Обґрунтовано необхідність диференційованого підходу для максимального розкриття потенціалу учнів у навчанні програмування.

Ключові слова: методичні підходи, алгоритмізація, програмування, задачний підхід, Lazarus, Scratch, педагогічні інновації, інтерактивні методи, ІКТ- компетентності.

THE TASK-BASED APPROACH TO TEACHING PROGRAMMING IN SCHOOLS: METHODOLOGICAL FRAMEWORK AND PRACTICAL IMPLEMENTATION

Abstract. The article analyzes the task-based approach to teaching programming in schools. The study examines methodological approaches that contribute to the development of algorithmic thinking and practical skills among students. The paper outlines ways to implement this approach using modern digital tools, with particular attention given to adapting educational materials based on students' proficiency levels.

The relevance of the study lies in the need to select appropriate tasks and programming environments for each student. The key approaches to programming education in schools are characterized, including task-based, differentiated, activity-based, and competency-based approaches.

The analysis of studies on the task-based approach highlights its significance in programming education. It has been established that this approach fosters the development of algorithmic thinking, the ability to model information processes, analyze problem conditions, construct solution algorithms, and implement them using programming languages. The need for a transition from reproductive to creative programming is emphasized.

It is noted that the main challenge in programming education is the lack of a systematic approach. The importance of focusing not only on learning the syntax of programming languages, but also on applying knowledge to real-world problem-solving is underscored. An example of implementing a task-based approach for students in grades 8–11 using the Lazarus programming language is provided, incorporating flowcharts, algorithmic structures, and environments with visual execution representation.

Methods for solving programming problems are examined, including the development of an information model, algorithm construction, and implementation in a specific programming language. The stages of skill development in programming, from reproductive to creative levels, are identified. The necessity of a differentiated approach to maximize students' potential in programming education is substantiated.

Keywords: methodological approaches, algorithmization, programming, task-based approach, Lazarus, Scratch, pedagogical innovations, interactive methods, ICT competencies.

INTRODUCTION

The problem formulation. Modern education is focused on developing competencies that enable students to independently solve problems across various fields of activity. One of the key directions of STEM education is programming instruction, which fosters the development of algorithmic thinking, logic, and the ability to analyze and model processes. However, practice shows that traditional approaches to teaching programming often emphasize the study of programming language syntax and the reproductive execution of algorithms without a deep understanding of their structure and underlying principles.

One of the promising methodological strategies in programming education is the **task-based approach**, which involves acquiring knowledge and skills through solving real-world or real-world-oriented tasks. This approach not only teaches students how to write code but also enhances their ability to analyze problem conditions, design solution algorithms, and adapt programmatic solutions to different contexts. A significant challenge, however, is the lack of methodological support for the implementation of the task-based approach, the absence of a systematic classification of typical programming tasks, and the lack of well-defined criteria for assessing the effectiveness of such an approach in school education.

Moreover, modern digital tools, particularly programming environments with code execution visualization, can significantly enhance the learning process. However, their use requires thorough methodological justification. This raises the issue of developing practical methodological approaches to implementing the task-based approach in programming education, including task adaptation according to students' proficiency levels and the integration of contemporary educational technologies.

Thus, the relevance of this study is determined by the need to explore effective methodological approaches for implementing the task-based approach in school programming education. Such an approach will contribute to the development of students' algorithmic thinking, creative problem-solving skills, and the successful application of digital tools in the learning process.

Analysis of recent research and publications. In modern pedagogical science, the task-based approach to teaching programming is considered one of the key methodological tools that foster the development of algorithmic thinking and the formation of students' practical skills.

In the works of H. Kostiuk (Kostiuk, 2010) and others, the concept of thought formation is substantiated, defined as the «"task-based approach". Considering problem-solving as a goal-oriented activity, the authors place central importance on cognitive activity, during which the development of students' thinking occurs based on the specialized formation of cognitive techniques. The initial moment of the cognitive process is usually a problematic situation.

A person begins to think when they feel the need to understand something. In programming, as in mathematics, physics, chemistry, and biology, task-solving skills and abilities are developed directly through tasks problems using theoretical knowledge of the subject.

In educational and methodological literature, the concept of a task is considered from the perspective of didactics as a form of implementing educational material and a means of learning, while from the perspective of psychology, it is viewed as a goal and a stimulus for thinking. There are various definitions of the term "task" In most definitions, a task is identified as a structure consisting of several components. According to I.. Lerner, "the characteristics of any task consist of the presence of a goal dictated by a requirement or question to the problem; the necessity to consider conditions and factors that serve as prerequisites for applying a solution method and ensuring the correctness of the solution itself; and the presence or necessity of identifying and constructing a solution method" (Matsko, 2016).

H.O. Bal [3] defines a task as "a system whose essential components include: (a) the subject of the task in its initial state and (b) a model of the required state of the subject".

The well-known mathematician G. Pylya distinguishes "four stages in the problem-solving process": understanding the task statement, devising a solution plan, executing the plan, and analyzing the results» (Pylya, 1991).

N. Wirth states that "in the process of solving any problem, whether using a computer or not, it is necessary to choose a certain abstraction of reality, that is, to define a set of data that describes the real situation. This choice depends on the problem that needs to be solved; then, a way of representing this information must be chosen. In most cases, these two stages are interdependent" (Wirth Niklaus, 1976).

An analysis of psychological and pedagogical literature shows that activity theory considers the learning process as the formation of students' cognitive activity.

The theoretical foundations of this approach have been explored by Ukrainian researchers, including I. S. Mintiy (Mintiy, 2012), N. V. Morze (Morze, 2003), who emphasize the importance of using problem-solving tasks in education to enhance logical and critical thinking. Their studies highlight the necessity of adapting tasks to students' proficiency levels and integrating modern information technologies into the learning process.

Among researchers, S. Papert (Papert, 1980) made a significant contribution to programming education methodology by developing the constructivist approach using the Logo programming environment. Additionally, B. Meyer and M. Guzdial (Guzdial, 2016) investigated the integration of the task-based approach in teaching programming languages such as Python and Java. Studies by Aho A. (Aho, 2012), Arnon I. (Arnon &, 2013), Bell T. (Bell & Vahrenhold , 2018) have demonstrated that the use of contextualized tasks in programming education significantly increases students' motivation and fosters a deeper understanding of programming principles.

A review of the scientific literature confirms that the task-based approach is an effective means of developing algorithmic thinking. Moreover, its combination with modern digital technologies, such as visual programming environments (Scratch, Lazarus), greatly facilitates the learning process. In particular, educators Brusilovsky P. and Weintrop D. emphasize the importance of using interactive teaching methods, including game-based and problem-oriented tasks, which contribute to a deeper mastery of programming among secondary school students (Brusilovsky & Calabrese, 1997).

RESEARCH METHODS

The aim of this study is to identify innovative approaches to implementing methodological strategies for teaching programming to secondary school students.

The research methods include analysis and synthesis, the systems approach, comparative analysis, modeling, generalization, and empirical methods.

RESULTS OF THE RESEARCH

The study of algorithmization and programming in secondary schools follows two main directions:

1. Developing students' algorithmic thinking.
2. Mastering software development technologies.

Algorithmization should be considered a fundamental stage that precedes the study of object-oriented programming (OOP), which has become particularly relevant in the current stage of information technology development (Informatics curriculum for students in grades 5-9,2017).

The structure of the school curriculum in algorithmization and programming provides for the gradual mastery of the following topics: linear algorithms, branching algorithms, loop algorithms, and auxiliary algorithms.

When studying a specific type of algorithmic structure, it is advisable to construct a flowchart, as it visually represents the logic of the algorithm, enhances understanding of its operation, and helps form a correct perception of its functioning. Additionally, an effective means of mastering algorithmic concepts is the use of educational environments with built-in executors, such as Scratch, which allow students to model the execution process of algorithms and demonstrate different ways of constructing them.

One of the key challenges in teaching programming in schools is the lack of a systematic approach. In practice, the learning process often focuses not on developing problem-solving skills through programming or creating software products, but merely on memorizing the syntax of a specific programming language. As a result, lessons are predominantly reduced to examining isolated language constructs and performing standard exercises, which do not contribute to the formation of skills in applying programming to solve practical tasks and real-world problems. Consequently, students with a natural aptitude for programming tend to develop their skills independently, while for most students, the subject remains abstract, complex, and seemingly irrelevant to real life.

In modern education, several methodological approaches to teaching programming in secondary schools have been identified, including the task-based, differentiated, activity-based, and competency-based approaches.

It should be noted that in programming, as in mathematics, the method of problem-solving refers to a set of mental techniques, logical actions, and operations used to solve a broad class of problems. In contrast, the problem-solving approach pertains to a set of mental techniques, logical actions, and operations applied to solving a specific problem [6]. Similarly, in both programming and mathematics, nearly every problem can be solved in multiple ways (i.e., through different algorithms). A problem is considered successfully solved when the most rational approach (an efficient algorithm) is identified. A key characteristic of problem-solving in programming is that: "When developing a program, it is crucial to focus primarily on the characteristics of the situation that are directly relevant to the given problem, while disregarding factors that are considered insignificant in this particular case." (Morze, 2003).

Halperin P. distinguishes two main parts of the problem-solving process: the analytical part, which is related to studying the problem and making guesses about the ways to solve it, and is a necessary prerequisite for creative thinking, and the constructive part, which is related to constructing what "needs to be found or invented in order to obtain the solution to the problem" (Rudenko, 2017), and represents the creative component of thinking.

Solving a programming problem generally involves implementing an algorithm using a specific programming language, which requires the programmer to have both proficiency in the relevant language constructs and the ability to work within a particular programming environment.

The task-based approach to learning programming emphasizes that during the problem-solving process, the primary focus should be on constructing an information model of the problem, searching for and developing its solution algorithm, while the use and study of programming language constructs remain secondary. In this approach, a programming language serves merely as a tool for solving the problem - one that can be replaced if necessary. By shifting the emphasis away from learning syntax, this method allows students to concentrate on solving problems and helps eliminate barriers to learning new programming languages.

In the process of learning programming, four stages of problem-solving skills and abilities can be distinguished among students:

1. Reproductive Programming. – At this stage, a student is capable of solving problems only when they find a previously solved analogous problem to follow.

2. Comprehended Programming. – At this stage, a student can independently determine the data type, construct a flowchart for the problem-solving algorithm, and apply appropriate algorithmic constructs. They can write a program code, but they may not always be able to identify the most efficient algorithm.

3. Justified Programming. – At this stage, a student not only solves the problem but also provides reasoning regarding the correctness and efficiency of the designed algorithm. They analyze alternative algorithms and select the optimal one.

4. Creative Programming – At this stage, a student can independently determine methods and construct an algorithm to solve a given problem. If necessary, they acquire basic programming language syntax skills, as well as familiarity with the appropriate programming environment required for problem-solving.

Additionally, they consult various programming resources to enhance their knowledge and acquire new competencies that may be useful for solving the problem.

Practical experience suggests that at the initial stage of learning to solve simple programming problems, the teacher's primary task is to support any algorithmic approach proposed by the student, as long as it produces a correct result. At the next stage, all proposed algorithms are subjected to a collective analysis by students together with the instructor. The evaluation considers factors such as the efficiency of programming constructs used, the number of executed operations, and the amount of intermediate variables utilized. Through comparative analysis, the optimal algorithm for solving the problem is determined (Mintiy, 2012).

Let us consider an example of implementing the task-based approach for students in grades 8–11 using the Lazarus programming language.

Example Task. A queue of n customers has formed at the entrance of a store. The service time for each customer is t minutes. Determine how long it will take to serve n visitors.

Solution Steps:

1. Open the Lazarus programming environment.

2. Using the Component Palette, place the following objects on the form: three labels (TLabel), One button (TButton), Two input fields (TEdit).

3. Using the Object Inspector, set the properties for the components as follows:

- Button1 Caption: "Calculate"
- Label1 Caption: "Number of Customers"
- Label2 Caption: "Service Time per Customer"

The form should be designed as follows (Fig. 1):

4. In the Object Inspector, create an OnClick event handler for Button1 (or double-click the button).

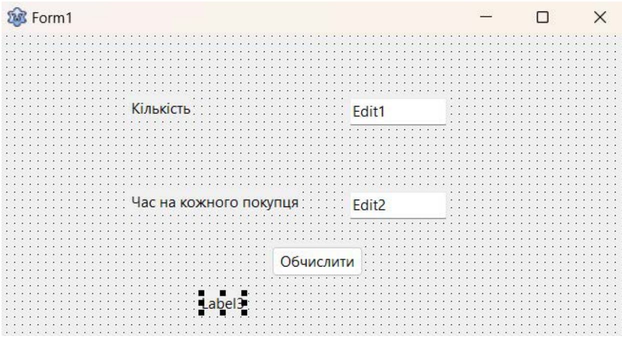

Fig 1. Placement of components on the form

5. Enter the following code in the text editor:

```
procedure TForm1.Button1Click(Sender: TObject);
var n, t, time: integer;
begin
n:=StrToInt(Edit1.Text); // Assigns the integer value entered in Edit1 as the number of store visitors
t:=StrToInt(Edit2.Text); // Assigns the integer value entered in Edit2 as the service time per customer
time:=n*t; // Calculates the total service time for all n customers and assigns it to the variable time
Label3.Caption:='Total service time for all customers = ' + IntToStr(time) + ' min';
end;
```

6. The expected output of this algorithm should result in a form similar to Figure (Fig.2):

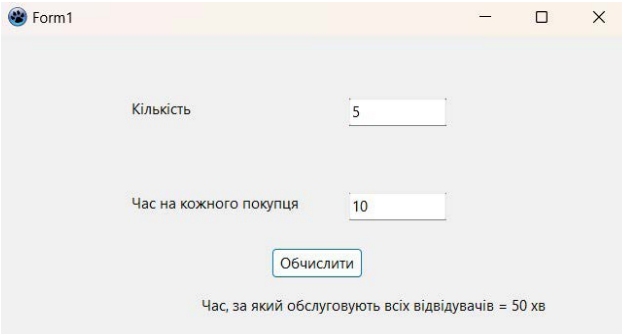

Fig 2. Program Execution Result

7. To ensure that the input fields and the output label are empty when the program starts, set the Text property of the input fields and the Caption property of the output label to an empty string ('') in the FormCreate event:

```
procedure TForm1.FormCreate(Sender: TObject);
begin
Edit1.Text:=' ';
Edit2.Text:=' ';
Label3.Caption:=' ';
end;
```

Alternatively, these property values can be set directly in the Object Inspector.

8. Finally, save the project within your folder structure, then close all windows.

To fully unleash students' potential in programming, a differentiated approach is recommended. This is because: "… students differ in their abilities, memory types, perception styles, dominant thinking patterns, and other cognitive characteristics." Different conditions, varying life experiences, differing levels of academic success in previous stages of education, and the nature of past and present teaching approaches contribute to differences among students. That is why, if we aim to maximize the development of all students in the learning process, we must apply a differentiated approach when selecting teaching forms, methods, and tools (Mintiy, 2012).

One of the means of implementing a differentiated approach in programming education is the use of a system of educational tasks with varying levels of complexity.

When selecting tasks, a focus can be placed on the algorithmic component. Problem-solving algorithms can be implemented using two programming languages: Scratch (for grades 5-7) and Lazarus (for grades 8-11).

The complexity of thematic tasks should gradually increase at each level, covering the following topics: Linear algorithms, Construction of graphic primitives, Branching (conditional algorithms), Iteration (loop algorithms).

Solving subsequent tasks requires knowledge and skills acquired from previous tasks. Tasks can be divided into three levels of complexity: Basic level – satisfactory, Intermediate level – sufficient, Advanced level – high.

Basic-level tasks are the simplest. Solving these tasks ensures that students acquire programming knowledge at a satisfactory level.

Intermediate-level tasks are more labor-intensive and complex. They require analytical thinking and a deeper understanding of the material, ensuring sufficient mastery of programming concepts.

Advanced-level tasks are the most challenging. These tasks are often comparable in difficulty to programming competition problems. They require a creative approach and genuine interest in programming, fostering a high level of proficiency.

Differentiated instruction, implemented through a structured system of tasks of varying complexity that considers students' intellectual abilities, enhances the efficiency and quality of programming education.

Experience demonstrates that the application of level-based differentiation fosters students' creative approach to learning, encourages them to strive toward their goals, enhances cognitive activity, and maintains interest in education among all learners. Additionally, it helps develop self-confidence in their abilities, knowledge, and skills - an essential factor for future professionals who will operate in a highly competitive intellectual labor market.

Experimental research confirms the feasibility and effectiveness of this approach in teaching the fundamentals of programming. Its implementation enables the individualization of the learning process, allowing for a more objective assessment of each student's knowledge level.

Multilevel learning outcome planning ensures a high degree of student autonomy in the educational process. Moreover, an individual work pace contributes to deeper comprehension and retention of knowledge, while also developing self-education and self-monitoring skills.

Below are several examples of differentiated programming tasks for students in grades 8-11, using the Lazarus programming language.

Example of a Level 1 Task on "Constructing Basic Graphic Primitives". Task: Write a program that displays an image on a form. The project should include two buttons to toggle the visibility of the image on the form (Visible = True or False).

Steps to Complete the Task:

1. Launch the Lazarus programming environment.
2. Using the Component Palette, place the following objects on the form: Two buttons (TButton), An image (TImage).
3. Using the Object Inspector, set the properties of the buttons as follows:

- Button1 Caption: "Show"
- Button2 Caption: "Hide"
- Set the properties of Image1: Height: 200 px, Width: 300 px, Visible: False

4. In the Object Inspector, create event handlers for the OnClick event of Button1 and Button2 (or double-click the button).
5. Enter the following code in the test editor window:

```
procedure TForm1.Button1Click(Sender: TObject);
begin
  Image1.Visible:=True;
end;
procedure TForm1.Button2Click(Sender: TObject);
begin
  Image1.Visible:=False;
end;
```

6. The result of this algorithm should be a form of this type (Fig. 3).

Fig. 3. Performance result

7. Save the project in its own folder structure. Close all windows.

An example of a task of the second level of complexity on the topic "Construction of basic graphic primitives". Create a "Car fleet" project, in which, when hovering the mouse over the name of the car, the corresponding images of the cars (Ferrari, Audi, BMW, Lamborghini) should be displayed.

Work progress:

1. Download the Lazarus programming environment.

2. Using the Component Panel, place the following objects on the form: four labels (TLabel) and four images (TImage).
3. Using the Object Inspector, set the properties for the labels and images as follows:
- For the image Image1 Proportional: True (similarly for the other images); Picture: load the corresponding picture with the car (similarly for the others);
- For the label Label1 Color: clRed (similarly for the others);
- For the label Label1 Caption: Ferrari (similarly for the others);

4. In the Object Inspector window, create OnMouseMove event handlers for each of the labels (there should be four instances in total) and an OnCreate event handler for the form.
5. In the text editor window, enter the code for the form that will hide all images when it is created.

```
procedure TForm1.FormCreate(Sender: TObject);
begin
  Image1.Visible:=False;
  Image2.Visible:=False;
  Image3.Visible:=False;
  Image4.Visible:=False;
end;
```

6. Next, you need to enter the code for the labels in the created event handler OnMouseMove.

```
procedure TForm1.Label1MouseMove(Sender: TObject; Shift: TShiftState; X, Y: Integer);
  begin
    Image1.Visible:=True;
    Image2.Visible:=False;
    Image3.Visible:=False;
    Image4.Visible:=False;
  end;
```

7. Duplicate this code for other labels, changing only the visibility of the desired images.
8. The result of executing this algorithm should be a form like this (Fig. 4).

Fig. 4. Execution result

9. Save the project in its own folder structure. Close all windows.

An example of a third-level task on the topic "Construction of basic graphic primitives". Write a program that illustrates the solution to the following task. Display an arbitrary geometric shape (for example, an ellipse) on the screen, when you click on it with the mouse, it is painted with a color that the user selects manually (from a group of switches) among such possible options as: red, blue, green.

Work progress:

1. Download the Lazarus programming environment.
2. Using the Component Panel, place the following objects on the form: radio button (TRadioGroup), shape (TShape).
3. Using the Object Inspector, set the properties for the radio buttons and shape as follows:

For Shape1 Shape: "stCircle";

For RadioGroup1 Caption: "Select a color:".
4. For the RadioGroup1 Items selection button, fill in the lines with the values: Red, Green, Blue;
5. In the Object Inspector window, create OnMouseDown event handlers for the ellipse shape Shape1.
6. In the text editor window, enter the following code for the created event handler:

```
procedure TForm1.Shape1MouseDown(Sender: TObject; Button: TMouseButton; Shift: TShiftState; X, Y: Integer);
begin
  if RadioGroup1.ItemIndex=0 Then Shape1.Brush.Color:=clRed;
  if RadioGroup1.ItemIndex=1 Then Shape1.Brush.Color:=clGreen;
  if RadioGroup1.ItemIndex=2 Then Shape1.Brush.Color:=clBlue;
end;
```

7. The result of executing this algorithm should be a form like this (Fig. 5).
8. Save the project in its own folder structure. Close all windows

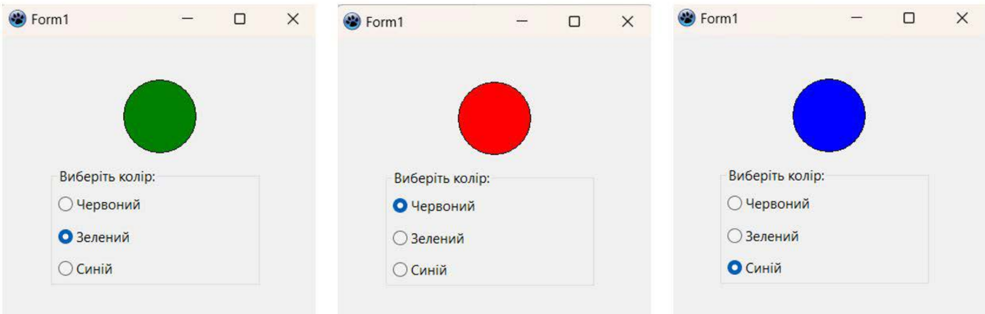

Fig. 5. Execution result

One of the key challenges in programming education is the diverse initial level of students' preparedness in informatics, particularly in the fields of algorithmization and programming. To ensure sustained interest in learning programming, it is essential to implement an individualized approach to designing educational and methodological tasks. The individualization of the educational process is achieved by enabling students to become active participants in learning, allowing them to independently determine their work pace, choose the complexity of tasks, acquire new material, and apply the acquired knowledge in practice. An important aspect of this process is objective assessment, which accurately reflects the actual level of material comprehension. Improving the effectiveness of the learning process is possible only if the individual characteristics of each student are taken into account and utilized as a tool for optimizing education.

According to the disciplinary approach, knowledge acquisition occurs through students' active cognitive engagement, in which the learning process simultaneously facilitates the development of both cognitive and practical competencies. In this context, the fundamental unit of activity is a subject-specific action that defines the structure of the educational process. The central element of student activity in programming education is the problem-solving process, which fosters the ability to develop efficient algorithms for solving various types of problems and implement them using programming techniques.

The application of an instructional approach in programming education requires the systematic use of methodological tools and the structured definition of their implementation components, contributing to a deeper understanding of the learning material and the development of students' algorithmic thinking (Semerikov, 2009). In the modern education system, it is crucial to integrate pedagogical innovations and effectively apply interactive teaching methods to enhance the quality and outcomes of the learning process.

Interactive teaching methods are instructional approaches that enhance student engagement and are based on their interaction with one another. Interactive learning is a process built on the interaction between students and the learning environment, grounded in the psychology of human relationships and interactions. It is a cognitive process in which knowledge is acquired through collaborative activities such as dialogue and polylogue.

Thus, interactive teaching methods aim at "personal development." At the same time, they not only foster active perception and personal significance but also contribute to their development. A key distinction between interactive and traditional teaching methods is the integration of real-life experiences, as well as the development of personal and professional skills through information analysis and systematization.

Through interactive exercises, students acquire the following knowledge, skills, and competencies: the development of critical thinking; the ability to analyze and evaluate their own ideas and actions; independent construction of new knowledge; defending their opinions in frequent discussions; decision-making skills; and the ability to effectively select relevant information.

Therefore, in the process of interactive learning, students must be prepared for collaborative work and active engagement in perception and communication.

The article presents an example of an interactive exercise on the topic "Quantities (Variables and Constants), Their Properties, and Basic Types of Quantities," designed for 8th-grade students. The task involves solving an exercise created in the LearningApps.org environment in the format of a "Find the Words" game (Fig. 6), which helps reinforce theoretical knowledge and develop classification skills for different types of quantities.

In the figure, students can see a 20Ч20 table filled with letters. To the right of the table, there is a list of seven words that need to be found: constant, character, variable, logical, integer, real, quantity. The words were carefully selected according to the lesson topic and relate to fundamental concepts in the study of theoretical material. Once a word is found, it lights up in green both within the table and in the word list on the right. The exercise is considered complete when the student successfully identifies all the words (Rudenko, 2017).

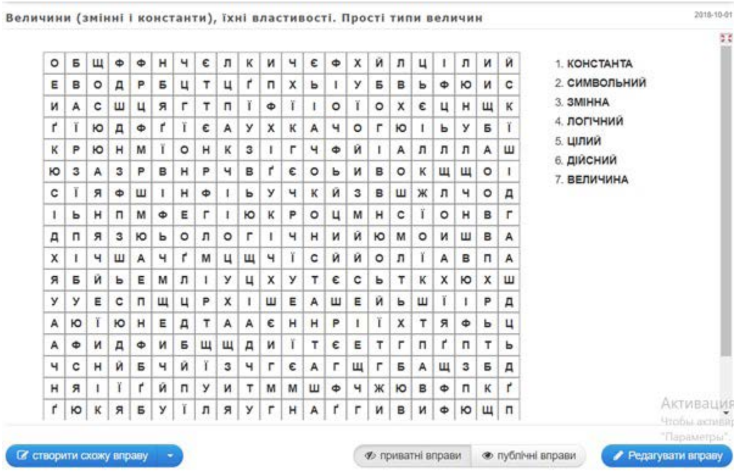

Fig. 6. Exercise "Find the words"

In the figure, students can see a 20Ч20 table filled with letters. To the right of the table, there is a list of seven words that need to be found: constant, character, variable, logical, integer, real, quantity. The words were carefully selected according to the lesson topic and relate to fundamental concepts in the study of theoretical material. Once a word is found, it lights up in green both within the table and in the word list on the right. The exercise is considered complete when the student successfully identifies all the words (Rudenko, 2017).

The implementation of a competency-based approach in the educational process enables the realization of a key concept in modern education - the interconnection between planned learning outcomes and their practical achievement. Mastering the skills required for solving competency-based tasks involves the ability to apply acquired knowledge and skills in real-world situations.

Competency formation is based on several essential factors:

- Knowledge mobility – the continuous updating of knowledge to effectively address tasks in current conditions;
- Methodological flexibility – the ability to choose an appropriate approach depending on the specific situation;
- Critical thinking – the capacity for creative and unconventional analysis.

By integrating these elements, the competency-based approach enhances students' ability to apply theoretical knowledge in practice, fostering a deeper understanding and effective problem-solving skills (Maksymenko, 2018).

The implementation of a competency-based approach in programming education is feasible under the condition that educators design specialized tasks, including:

1. Problems involving large volumes of information presented in the form of tables, graphs, charts, and diagrams;
2. Optimization problems requiring the selection of the most efficient solutions;
3. Problems with redundant or insignificant data that require analytical filtering.

The competency-based approach emphasizes the practical application of knowledge and skills in extracurricular and real-life situations (Tabl.1). The most effective methods for developing key competencies include utilizing prior experience, solving problem-based tasks, analyzing complex situations, applying discussion-based methods, engaging in game-based learning (role-playing and business simulations), and participating in project-based activities that encompass research, creativity, and practice-oriented projects.

In the field of informatics and programming, the following key types of ICT competencies can be distinguished:

- Technological competency – the ability to effectively use modern hardware and software tools to solve applied problems.
- Research competency – the ability to analyze, search for, process, and interpret information from various sources to solve ICT-related problems.
- Modeling competency – the ability to develop and utilize mathematical, informational, and logical models for analyzing and predicting processes and phenomena.
- Methodological competency – proficiency in principles and methods of organizing educational and professional activities in the field of information technology.
- Algorithmic competency – the ability to design, analyze, and optimize algorithms for automating computational processes and solving problems through programming.

By integrating these competencies into the learning process, students gain essential skills for solving real-world challenges and effectively applying programming concepts in diverse contexts [17].

Table 1

Competencies

Representative comparative and personalised works on pedagogical personalities of foreign countries and Ukraine [author's elaboration]

№	Core competencies	General subject competencies
1	**Communication competence**	**Oral dialogue**
	Dialogue "human" - "technical system"	Understanding the principles of interface design, working with dialog boxes
	Dialogue in written form	Using email for correspondence
	Work in a group	Working on a joint software project, interacting on the Internet
	Tolerance	Existence in an Internet community
2	**Information competence**	**Information search**
	Systematization, analysis and selection of information	Database design, use of various types of sorting and filtering
	Information storage	
	Information transformation	Conversion of information: from graphic to text, from analog to digital, etc.
3	**Value-meaning competence**	**Formulation of one's own learning goal**
	Decision-making, taking responsibility	Leadership in a group project, decision-making in non-standard situations
4	**Social and labor competence**	**Awareness of the existence of certain requirements for the product of one's activity**
	Analysis of the advantages and disadvantages of analogs of your own product	Design of various types, training in office technologies
5	**General cultural competence**	**Website and application design**
	Understanding the place of this science in the system of other sciences	Trends in the development of programming languages
6	**Personal development competence**	**Creating a comfortable environment and working conditions**
7	**Educational and cognitive competence**	**Ability to analyze and self-assess one's own activities**

Let us consider an example of a competency-based task for students in grades 5-7 (programming language: Scratch). Scratch is a visual programming environment that is an ideal tool for introductory programming education due to its accessibility and intuitive interface. The online version of Scratch (https://scratch.mit.edu/) allows students to create animations, games, and interactive projects without the need to install additional software. The use of this environment in the learning process helps to develop basic algorithmic skills, introduces the concepts of branching, loops, variables, and conditional operators.

The proposed game "Guess the Number" contributes to the development of logical thinking, helping students understand the principles of organizing conditional checks and loops in programming. It requires the player to interact with the program by entering numbers and receiving hints regarding the correct answer. The proposed task develops students' educational and cognitive competence.

Example of a competency task. Create a game in which you need to guess the number given by our character, which can be given in the range from 1 to 30. Use the algorithmic construction of branching and repetition to execute the algorithm.

Workflow:

1. Download the Scratch programming learning environment.
2. Create a variable called "Number". To do this, select the Variables - Create Variable command group. (Fig. 7).
3. Assign this variable a random value from 1 to 30.
4. Next, you need to “start” communication – insert the “Speak” and “Ask” blocks.
5. Use the algorithmic repetition construct (the “Repeat While” block) to repeat the following commands until the condition is met: the answer is “equal” to the Number.
6. Use the algorithmic branching construct “If – Else” from the Control command group, which will be executed until the condition is met: the answer is “greater than” the Number.

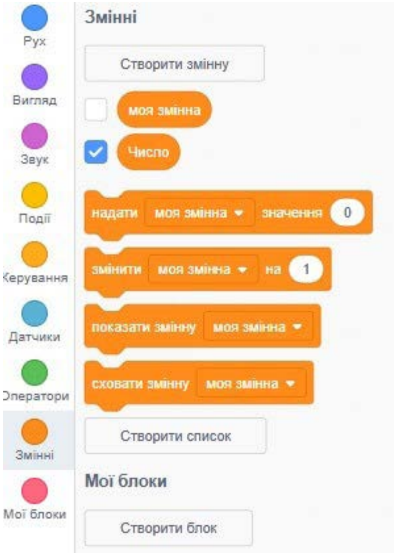

Fig. 7. Creating a variable

7. Inside the branching block, insert the "Speak" blocks, which will depend on the student's answer to the question.
8. The result of executing this algorithm should look like this (Fig. 8).

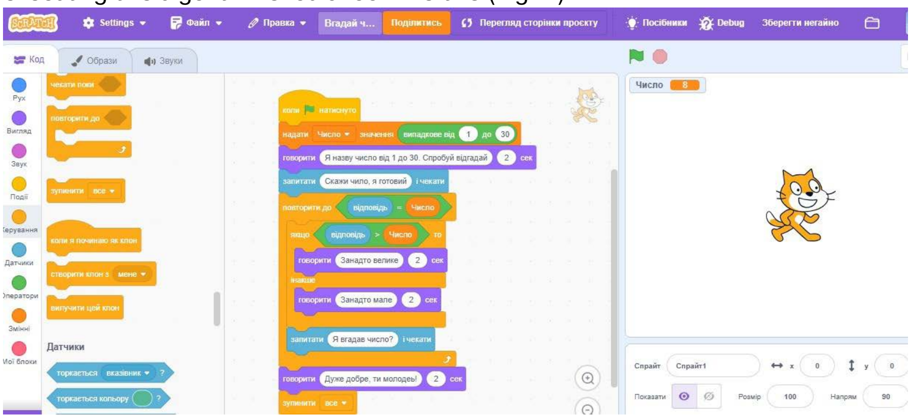

Fig. 8. Result of algorithm execution

9. Save the project in its folder structure. Close all windows.

The solution to this task not only teaches students the basic principles of programming but also enhances their creativity and problem-solving skills. The use of Scratch allows for easy modification of the game mechanics, enabling the addition of new elements such as character animation or sound effects, which fosters creative thinking [19].

Such competency-based tasks motivate students to engage in independent experimentation, help them understand the relationships between different algorithmic constructs, and contribute to the development of digital literacy, which is essential in the modern educational environment.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

The article examines the task-based approach to teaching programming in schools, which is based on the integration of theoretical knowledge and practical skills through solving real-world tasks. According to the research findings, the application of this approach actively fosters the development of students' logical thinking, creativity, and independence. The creation of tasks with varying levels of complexity and their gradual differentiation allow for consideration of individual student characteristics while ensuring a deep understanding of programming as a problem-solving process.

The methodological approaches discussed in the article include the active use of interactive platforms such as Scratch and Code.org, as well as the integration of programming with other disciplines to establish interdisciplinary connections. The practical implementation of the task-based approach in classrooms has demonstrated significant improvements in students' engagement and motivation to learn programming.

Prospects for further research include:

- Investigating the effectiveness of integrating the task-based approach with other modern teaching methods (e.g., project-based learning or gamification) to enhance students' immersion in the programming process.

- Developing new tools and platforms that meet the requirements of contemporary education and facilitate the effective implementation of the task-based approach at different stages of learning.
- Analyzing the impact of the task-based approach at the secondary education level in the context of preparing students for professional programming and their future careers in the IT industry.
- Exploring the influence of the task-based approach on the development of critical thinking and problem-solving skills, which are crucial in a rapidly evolving technological environment.

These directions will help to further assess the effectiveness of the task-based approach and its role in the advancement of modern programming education.

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Chapter III. THEORETICAL-METHODICAL FUNDAMENTALS OF PROFESSIONAL TRAINING OF FUTURE TEACHERS

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СУЧАСНИЙ СТАН ПРОФЕСІЙНОЇ ПІДГОТОВКИ МАЙБУТНІХ МАГІСТРІВ ПОЧАТКОВОЇ ОСВІТИ У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ УКРАЇНИ

Анотація. У статті висвітлено проблему професійної підготовки майбутніх магістрів початкової освіти у закладах вищої освіти України, актуальність якої зумовлена низкою важливих чинників. Професійна підготовка майбутніх магістрів початкової освіти є ключовим процесом, який забезпечує підготовку висококваліфікованих педагогів, здатних відповідати на сучасні виклики освітнього середовища. У дослідженні наголошено на важливості вибору ефективних методів навчання, інтеграції інноваційних освітніх ресурсів, модернізації навчальних програм і пріоритетності педагогічної практики як основних компонентів підготовки вчителів. Вибір педагогічних методів має відповідати принципам особистісно орієнтованого підходу, сприяти розвитку креативності, критичного мислення та активної участі майбутніх педагогів.

Інтеграція цифрових технологій та освітніх інструментів, таких як системи управління навчанням, інтерактивне програмне забезпечення та платформи для онлайн-оцінювання, визначається як ключовий елемент підвищення ефективності освітнього процесу. Ці ресурси дозволяють майбутнім педагогам опанувати навички, необхідні для створення інклюзивного та динамічного освітнього середовища, яке врахує різноманітні потреби здобувачів освіти. Модернізація навчальних програм є необхідною для забезпечення їх відповідності сучасним педагогічним, психологічним та технологічним досягненням. Оновлення програм сприяє міждисциплінарному навчанню, інноваційним педагогічним стратегіям та відповідності глобальним освітнім стандартам.

Доведено, що педагогічна практика є основою професійної підготовки, яка з'єднує теоретичні знання з практичним застосуванням. Вона дозволяє майбутнім педагогам розвивати важливі навички, такі як управління класом і планування уроків, а також формує адаптивність і здатність до розв'язання проблем. Завдяки практичному досвіду в різноманітних освітніх умовах майбутні магістри початкової освіти краще підготовлені до викликів сучасної початкової школи.

У дослідженні підкреслюється необхідність комплексного і збалансованого підходу до підготовки майбутніх магістрів початкової освіти, що забезпечує їхню готовність надихати та підтримувати молодших школярів у стрімко змінюваному освітньому середовищі.

Ключові слова: професійна підготовка, початкова освіта, майбутні магістри, заклади вищої освіти, молодші школярі.

PROFESSIONAL TRAINING OF FUTURE MASTERS OF PRIMARY EDUCATION IN HIGHER EDUCATION INSTITUTIONS OF UKRAINE: CURRENT EXPERIENCE

Abstract. The professional training of future Masters of Primary Education is a critical process that ensures the preparation of highly qualified educators capable of addressing the evolving demands of modern classrooms. The article emphasizes the importance of selecting effective teaching methods, integrating innovative educational resources, modernizing curricula, and prioritizing teaching practice as essential components of teacher training. The selection of pedagogical methods must align with learner-centered principles, fostering creativity, critical thinking, and active participation among future educators.

The integration of digital technologies and educational tools, such as learning management systems, interactive teaching software, and online assessment platforms, is highlighted as a pivotal element in enhancing the training process. Such resources equip educators with the technological proficiency required to create inclusive and dynamic learning environments that cater to diverse student needs. Additionally, the modernization of educational programs is essential to ensure that curricula remain relevant to current pedagogical, psychological, and technological advancements. The researchers prove that updated programs promote interdisciplinary learning, innovative teaching strategies, and adherence to global educational standards.

The paper highlights teaching practice serves as the foundation of professional training, bridging the gap between theoretical knowledge and real-world application. It allows future educators to develop essential skills, such as classroom management and lesson planning, while fostering adaptability and problem-solving abilities. By gaining hands-on experience in diverse classroom settings, future Masters of Primary Education are better prepared to address the complexities of primary education.

This research underscores the need for a comprehensive and balanced approach to teacher training, ensuring that future educators are equipped to inspire and guide young learners in a rapidly changing educational landscape.

Keywords: professional training, primary education, future masters, higher education institutions, primary school learners.

INTRODUCTION

The problem formulation. The formulation of the problem regarding the current state of professional training for future master's degree students in primary education at higher education institutions in Ukraine stems from the increasing demands on the quality of teacher preparation in response to contemporary educational challenges. The implementation of the New Ukrainian School (NUS) reform requires future educators to be equipped with advanced pedagogical skills, innovative teaching methodologies, and the ability to address the diverse needs of students in primary school. However, the current state of professional training programs reveals certain inconsistencies with these requirements, highlighting gaps in curriculum structure, methodological support, and practical training opportunities. One of the central issues lies in the alignment of educational programs with global and European standards, as Ukraine continues its integration into the international educational community. Furthermore, the rapid digitalization of education has exposed a lack of sufficient emphasis on developing digital competencies among future teachers. This deficiency limits their ability to effectively use technology to enhance the teaching and learning process. The socio-political context, marked by war and economic instability, further complicates the training of future educators. Many educational institutions face challenges in adapting their programs to prepare teachers to work with children affected by trauma, displacement, or special educational needs. Additionally, there is an insufficient focus on fostering research competencies, which are essential for modern educators seeking to contribute to the advancement of teaching practices.

Thus, the problem is multifaceted, involving the need to modernize educational programs, ensure compliance with international standards, integrate digital tools, and prepare future educators to address the unique social and psychological needs of students. These challenges underscore the critical importance of rethinking and enhancing the professional training of master's degree students in primary education in Ukraine.

Analysis of recent research and publications. The issue of professional training for future master's students is addressed by researchers, educators, and practitioners in the fields of pedagogy, psychology, and specific specialties. Key areas of research include the development of educational programs, teaching methods, the implementation of a competency-based approach, the use of digital technologies, and the analysis of labor market needs. In Ukraine, this topic is actively studied by scholars at pedagogical universities, including Vasyl Stefanyk Precarpathian national university, as well as specialized departments of other universities. Among prominent Ukrainian researchers in this field are I. Bekh, V. Bezpalko, T. Blyznyuk, O. Dubaseniuk, T. Kachak, M. Kaminska, V. Kremen, N. Naumenko, N. Nychkalo, N. Pobirchenko, O. Tsiuniak, and others, who explore aspects of professional training, the competency-based approach, and educational innovations.

THE AIM AND RESEARCH TASKS

Within the research we aim to study the current state of professional training of future masters of primary education in higher education institutions of Ukraine and outline components which impact the efficiency of this process.

RESEARCH METHODS

Using the tools of theoretical research methods, we analyse the problem of speech development of younger schoolchildren with the help of linguistic and literary means and ICT. By updating the empirical research methods, we systematise and summarise the results of the problem research, and offer methodological models for its solution.

RESEARCH RESULTS

The current stage of development of Ukrainian society is marked by significant transformations in all areas of human activity. The processes of European integration shape the directions of reform in the socio-economic, political, and educational spheres. In Ukraine, professional training of future masters of primary education is regulated by a number of state documents that define the standards, goals, and means of ensuring the quality of higher education for this specialization. It is worth mentioning the Law of Ukraine «On Education» which outlines general principles of the education system, including the provision of high-quality education and the implementation of a competency-based approach; the Law of Ukraine "On Higher Education" which regulates the organization of the educational process, emphasizing quality assurance in higher education and its harmonization with international standards; the National Qualifications Framework establishes qualification levels, competencies, and learning outcomes for each educational level, including the master's degree; the Strategy for the Development of Higher Education in Ukraine for 2022–2032 which highlights the need to modernize the system of master's training in accordance with the needs of society and the economy, integration with the European educational space, and the implementation of innovative technologies in the educational process; State Standard of Higher Education for the specialty 013 «Primary Education» (educational level «Master») which regulates the requirements for learning outcomes, competencies and content of the educational program for the preparation of masters in primary education; the «New Ukrainian School» that concept establishes strategic directions for reforming primary education, increasing the requirements for the professional training of teachers who will work in primary schools.

These and other documents provide a regulatory framework for the formation of educational programs focused on training highly qualified teachers for primary schools that meet the needs of modern society and educational reform.

The organization of the pedagogical process for the professional training of future master's students is based on various approaches that ensure effective learning, development of professional competencies, and preparation for practical activities. The main approaches include are presented in the diagram (see Fig.1).

To specify the objectives of each approach presented in Figure 1, it is important to note that Competency-Based Approach focuses on developing a system of knowledge, skills, and abilities that enable students to solve professional tasks. It emphasizes the development of general and professional competencies, critical thinking, communication skills, and teamwork abilities.

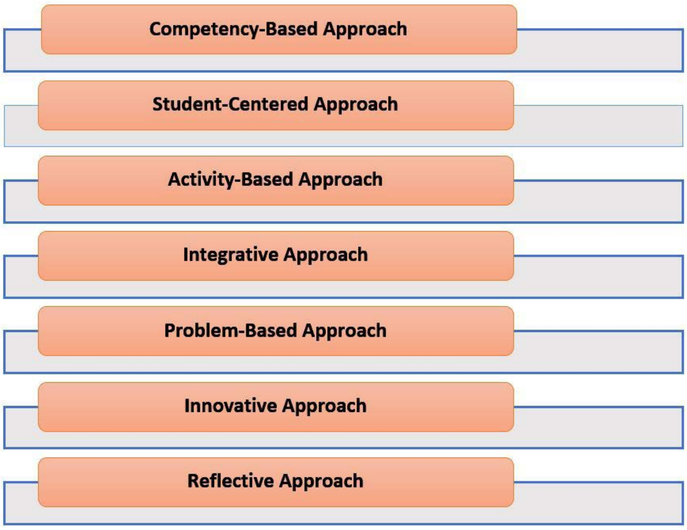

Figure 1. Approaches that ensure effective learning

Student-Centered Approach ensures individualized learning by considering the personal needs, interests, and prior knowledge of students. Special attention is given to fostering independence, creativity, and professional motivation. Activity-Based Approach aims at active student participation in practical activities and applying knowledge in real-world contexts. Methods include learning through practice, project-based activities, role-playing, and internships. Integrative Approach combines knowledge from different fields to provide a holistic understanding of future professional activities. For example, master's programs integrate pedagogical, psychological, and subject-specific knowledge. Problem-Based Approach involves solving professionally oriented problems and situations. This develops analytical skills, decision-making abilities, and the capacity to apply interdisciplinary knowledge. Innovative Approach snvolves the use of modern teaching technologies such as online learning, interactive platforms, digital tools and other multimedia resources. This enhances the effectiveness of the learning process and adapts it to contemporary challenges. Reflective Approach focuses on students' analysis of their own learning and professional experiences. It promotes self-assessment, self-development, and the ability to adapt to new conditions.

According to the State Professional Standard for primary school teachers (https://mon.gov.ua/news/zatverdzheno-profstandart-vchitelya-pochatkovikh-klasiv-vchitelya-zakladu-zagalnoi-serednoi-osviti-i-vchitelya-z-pochatkovoi-osviti), regular use of the listed approaches ensures the developmnt of professional competencies of a would-be teacher, as civic, social, cultural, leadership and entrepreneurial general competences formed in the process of professional training, as well as linguistic and communicative, subject-methodical, informational and digital, psychological, emotional and ethical, inclusive, health-preserving, design, prognostic, organizational, evaluative and analytical, innovative, reflective professional competences, as well as pedagogical partnership and life long learning.

The effectiveness of professional training for future master's students largely depends on the teaching methods as well. The use of the appropriate ones engages students actively in the process of acquiring knowledge, developing skills, and forming professional competencies.

As noted by Vasylykiv I. «in the process of training a primary school teacher, it is advisable to use the following methods: conducting interactive problem lectures, namely, using the «question-answer» method throughout the lecture; conducting short presentations prepared by students that would reveal one of the questions posed in this topic, etc.; implementing such forms of work during practical classes as a «round table», «workshop», where students solve important problems of the specialty during the discussion based on their own independent work; conducting debates, discussions, analysis of pedagogical situations, video fragments of lessons; using role-playing and business games, case methods, «brainstorming» in the educational process of higher education, which contribute to the development of activity, creativity, and teacher creativity; conducting seminars, workshops, master classes, training sessions that contribute to the formation of professional competence of a future primary school teacher» (Vasylykiv, 2022).

Interactive learning methods, as mentioned researchers T. Blyznyuk and T. Kachak, «best correspond to person-oriented and activity-based approaches, because they are based on the realization of the cognitive interests and needs of the individual, his/heracquisition of practical skills and abilities during role-playing games and modeling of various life situations. They provide space for the student's self-realization in learning and displayingcreative potential, contribute to the implementation of the competence-basedapproach, which is key in the New Ukrainian School» (Blyznyuk & Kachak, 2024).

Other effective teaching methods which are worth noting are as follows (see Fig.2). These methods create a multifaceted learning environment where theoretical knowledge is combined with practical experience, helping to develop a competitive professional.

Figure 1. Teaching methods that ensure effective learning

To deeply study the real state of future primary school teachers' training for the organization of interactive interaction with students, it is relevant to consider the educational means and resources, available for the students, namely textbooks and manuals that are actively used by teachers of higher education institutions in the process of masters' professional training. This problem was studied by the researcher of Berdyansk State Pedagogical University, Petryk Ch., who performed a detailed analysis of the resource base for the students' training in the specialty 013 «Primary Education». She outlined advantages and probability of its use in higher education institutions of Ukraine in the context of the modernization of the global educational space and concluded the need to update materials. This will ensure the formation of appropriate readiness of future primary school teachers for organising more practice-oriented tasks that would contribute to the better formation of their skills to create a comfortable educational environment in primary school (Petryk, 2022). These methods create a multifaceted learning environment where theoretical knowledge is combined with practical experience, helping to develop a competitive professional.

Scientists mention that professional training of future Masters of Primary Education can be greatly enhanced by utilizing a variety of digital online resources. Learning Management Systems, such as Zoom, Moodle, Google Classroom, and Teams, serve as comprehensive platforms for organizing and delivering educational content (Chervinska, Khimchuk, 2021). They allow educators to design interactive courses, manage assignments, and facilitate online discussions.

For future Masters of Primary Education, these platforms provide valuable opportunities to engage with digital teaching methods and experience blended learning models. LMS tools also encourage collaboration among peers and provide real-time feedback from instructors, fostering an interactive and efficient learning environment.

Online Libraries and Academic Databases provide students with free access to academic research and teaching resources for their professional growth. Digital libraries like ERIC, JSTOR, and ProQuest offer a wealth of educational literature, including journal articles, research reports, and case studies that help future educators stay updated on the latest pedagogical trends. Additionally, national libraries, such as the Vernadsky National Library of Ukraine and Online Library of PNU provide specific educational materials and manuals to courses. These resources are invaluable for developing research skills, completing coursework, and understanding the theoretical underpinnings of effective teaching practices. Educational Resource Platforms such as Coursera, EdX, Prometheus, EdEra and NaUrok offer specialized courses that address various aspects of pedagogy, including classroom management, curriculum design, and child psychology. Future educators can enroll in courses created by renowned universities and experts, gaining certifications that enhance their credentials. Additionally, foreign platforms like Khan Academy and Teachers Pay Teachers provide a variety of lesson plans, worksheets, and instructional videos. These tools help teachers explore creative and interactive ways to engage young learners in primary education (however, basically in the English language).

Practical teaching skills can be developed through Digital Tools for Teaching Practice like Kahoot!, Nearpod, LearningApps, and Quizlet allow teachers to create interactive quizzes, polls, and presentations that make learning engaging for students. These digital tools are particularly useful for understanding how to integrate technology into traditional classroom settings (Blyznyuk, 2021).

Simulations and VR tools provide immersive environments for practicing teaching skills. Platforms like GoLab allow future educators to interact with virtual students, helping them refine their classroom management and instructional techniques in a risk-free setting. Similarly, VR applications like ClassVR offer opportunities to explore how immersive technologies can enhance learning experiences. For example, teachers can use VR to take students on virtual field trips or explore interactive educational content that fosters curiosity and engagement. As assessment is a vital part of the teaching process, Digital Assessment Tools like Google Forms, Socrative, Kahoot and Edulastic offer innovative ways to create, distribute, and evaluate tests and assignments. These tools enable future educators to develop formative and summative assessments tailored to students' needs (Blyznyuk, 2021). With features such as automated grading and analytics, these platforms help teachers identify areas where students may need additional support, ensuring a data-driven approach to education.

Another problem can be easier solved with Language and Literacy Tools as improving language and literacy skills is essential for both educators and students. Services like Grammarly and Turnitin help future teachers refine their academic writing and ensure originality in their work. For fostering literacy in the classroom, platforms like ReadTheory provide adaptive reading comprehension exercises. Language learning tools such as Duolingo can also be valuable for educators who wish to teach in multilingual environments or strengthen their foreign language skills to better communicate with diverse student populations.

These and numerous other resources collectively prepare future Masters of Primary Education to integrate technology effectively into their teaching while staying updated with modern pedagogical trends.

The specifics of the professional training of future Master's students in Primary Education are defined by the need for a comprehensive approach to developing not only deep theoretical knowledge but also practical skills that will be used in the modern primary school setting. Here it appears urgent to critically analyse and eventually modernize educational programs, address contemporary societal and professional challenges, and ensure high-quality education for primary school students in the context of current trends in the development of education in Ukraine.

In this context, scientist Tsuiniak O. offers thorough analysis of the of academic courses provided by the Department of Primary Education of the Pedagogy Faculty of the Vasyl Stefanyk Precarpathian National University in terms of professional training of future masters of primary education for innovative activities (Tsuiniak, 2020). In her research she comes to the conclusion, that properly selected courses, mandatory and elective (chosen by the higher education institution, and those of the student's free choice) as well as pedagogical skills and professionalism of the teacher largely contribute to high quality professional training of future masters of primary education, encourage the realization of the opportunities of master's students to acquire professional experience, form professionally significant views, beliefs, scientific thinking, promote self-realization, self-development and self-education, which are necessary for the formation of an unique personal image of the future primary school teacher (Tsuiniak, 2020).

Currently, an important component of a future teachers' professional training, is pedagogical practice, which helps determine the degree of professional suitability. In recent years, there has been a tendency to increase its duration, draw attention to its organization and implementation, and raise awareness of its leading role in Master's students professional training. Taking into account the principle of continuity in education, it obvious that teaching practice starts far not in the final year of study. Since it begins with observing primary school lessons at the initial stage and deppens with organising and conducting classes with children in further years of educational process in the HEI.

Whereas Ukrainian experience of organizing teaching practice is well-known, it is relevant to mention some best practices from abroad. In universities of foreign countries, teachers' practical training of is an important component of professional training, aimed at developing professional competencies - pedagogical, psychological, socio-cultural, communicative, and more. For instance, generally, a significant amount of time is allocated for pedagogical practice in the USA – 240 hours, in the UK – 32 weeks, in Germany – 2 years. Positive experience in organizing practical training for future educators exists in Canada, where teaching practice involves studying four courses at a university (3 credits each) and completing teaching practice at a school for five weeks. The practice-oriented approach is the basis of practical training of future teachers in Finland. Practice is carried out in several stages, namely: introductory practice, basic practice, field school practice, teaching practice. Thus, at the master's level students have higher instructed practice (6 ECTS credits) and instructed practice - specialized pedagogical guidance (10 ECTS credits) (Avsheniuk, Godlevska, Dyachenko, Kotun, Marusynets, Ogienko, Postrygach, Pylynskyi, 2018).

Thus, practice is of particular importance in Cyprus (more than 50%) as well as in the professional and pedagogical training of Western European students. It is carried out throughout all years of study based on the principle of combining theory and practice. Examining and incorporating valuable insights from international experience in practical teacher training is crucial for the development of pedagogical education in Ukraine. This requires the initiation of new research by comparativists, as well as experts in pedagogy, and related fields (Papaevripidou, Budnyk, Blyznyuk, Olympiou, 2022).

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, professional training of future Masters of Primary Education is a multifaceted process that requires careful consideration of methods, educational resources, and practical experience. As it was evidenced, selecting appropriate teaching methods is essential to ensure that educators are equipped with the skills to meet the diverse needs of young learners. Effective methods focus not only on imparting knowledge but encourage critical thinking, creativity, and collaboration. Incorporating learner-centered approaches, such as project-based learning and interactive teaching techniques, fosters an engaging and meaningful educational experience for both teachers and students.

Equally important is the integration of modern educational means and digital resources. In today's technologically driven world, future educators must be proficient in using tools such as learning management systems, digital assessment platforms, and interactive teaching software alongside modern textbooks and manuals. These resources enable teachers to create dynamic and inclusive classroom environments while supporting personalized learning for students. By embracing digital technologies, the training process also aligns with global trends and prepares future educators for the challenges of contemporary education.

The modernization of educational programs plays a critical role in enhancing the quality of teacher training. Curricula should be continuously updated to reflect the latest developments in pedagogy, psychology, and educational technology. Modern programs must emphasize interdisciplinary learning, equipping future Masters of Primary Education with the ability to integrate knowledge across various subjects. Furthermore, programs should provide opportunities for critical reflection, research, and the development of innovative teaching strategies that align with national and global educational standards.

Teaching practice is the cornerstone of professional training, allowing future educators to apply theoretical knowledge in real-world settings. Current practical experience helps them develop essential skills such as classroom management, lesson planning, and effective communication. It also fosters adaptability and problem-solving abilities, which are crucial for addressing the complexities of primary education. By participating in teaching internships, future educators gain valuable insights into the dynamics of diverse classrooms and build the confidence needed to excel in their profession.

In conclusion, the professional training of future Masters of Primary Education must prioritize a balanced approach that integrates thoughtful methods, modern resources, updated curricula, and teaching practice. This comprehensive framework ensures that educators are well-prepared to inspire and guide young learners, ultimately contributing to the advancement of primary education in Ukraine.

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ОРГАНІЗАЦІЙНО-ДИДАКТИЧНІ ПІДХОДИ ДО ЗАСТОСУВАННЯ STEM-ТЕХНОЛОГІЙ У ПРОЦЕСІ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ ПРИРОДНИЧИХ ПРЕДМЕТІВ

Анотація. Автором на основі контент-аналізу наукових психолого-педагогічних джерел, опрацювання матеріалів зарубіжного досвіду з проблеми дослідження, описано організаційно-дидактичні підходи до застосування STEM-технологій у підготовці майбутніх учителів природничих предметів.

Наголошується, що організаційно-дидактичні підходи до підготовки майбутніх педагогів включають в себе сукупність принципів, методів і технологій, які сприяють оптимізації освітнього процесу та ефективної підготовки здобувачів вищої освіти до професійної діяльності.

Як основні методи дослідження використано: порівняльний аналіз наукових матеріалів з обраної тематики, опис емпіричного досвіду застосування STEM-освіти. На підставі сучасних методологічних підходів (системного, середовищного, компетентнісного, діяльнісного, особистісно-орієнтованого) визначено феноменологічну сутність STEM-освіти, розкрито освітній потенціал та дидактичну роль високотехнологічних засобів STEM-технологій у цілісному освітньому процесі. У рамках вирішення поставлених завдань конкретизовано понятійно-термінологічний апарат, що забезпечує необхідний рівень теоретико-методологічного обґрунтування розробки та ефективного системного застосування високотехнологічного технологічного інструментарію та інноваційних цифрових рішень з метою оптимізації застосування організаційно-дидактичних підходів до застосування елементів STEM-освіти у процесі фахової підготовки майбутніх педагогів.

Автор зазначає, що відповідно до організаційно-дидактичних підходів STEM-освіта – це добре спланований й організований процес, який включає вивчення природничих наук разом із технологією та математикою , який базується на дослідницько-пошуковій діяльності як провідному способі освітньої взаємодії.

У статті вказується, що сучасна психолого-педагогічна наука та шкільна практика визначають STEM-освіту як високотехнологічний інформаційно-дидактичний засіб навчання інноваційний цифровий ресурс, освітньо-виховний потенціал активно реалізуються для оптимізації організації освітнього процесу та всебічного розвитку й саморозвитку зростаючої особистості.

Ключові слова: STEM-освіта, підготовка, цифрові ресурси, технології, природничі шкільні предмети, організаційно-дидактичний підхід, освітній процес.

ORGANIZATIONAL AND DIDACTIC APPROACHES TO THE APPLICATION OF STEM TECHNOLOGIES IN THE PROCESS OF TRAINING FUTURE SCIENCE TEACHERS

Abstract. Based on the content analysis of scientific psychological and pedagogical sources, the author describes organizational and didactic approaches to the application of STEM technologies in the training of future teachers of natural sciences.

It is emphasized that organizational and didactic approaches to the training of future teachers include a set of principles, methods and technologies that contribute to the optimization of the educational process and the effective preparation of higher education applicants for professional activity.

The main research methods used are: comparative analysis of scientific materials on the selected topic, description of empirical experience in the application of STEM education. Based on modern methodological approaches (systemic, environmental, competency, activity, personality-oriented), the phenomenological essence of STEM education is determined, the educational potential and didactic role of high-tech means of STEM technologies in a holistic educational process are revealed. Within the framework of solving the tasks set, a conceptual and terminological apparatus has been specified, which provides the necessary level of theoretical and methodological substantiation of the development and effective systematic application of high-tech technological tools and innovative digital solutions in order to optimize the use of organizational and didactic approaches to the application of STEM education elements in the process of professional training of future teachers.

The author notes that, according to organizational and didactic approaches, STEM education is a well-planned and organized process that includes the study of natural sciences together with technology and mathematics, which is based on research and search activities as the leading method of educational interaction.

The article indicates that modern psychological and pedagogical science and school practice define STEM education as a high-tech information and didactic means of learning, an innovative digital resource, the educational and educational potential of which is actively implemented to optimize the organization of the educational process and the comprehensive development and self-development of a growing personality.

Keywords: STEM education, training, digital resources, technologies, science school subjects, organizational and didactic approach, educational process.

INTRODUCTION

The problem formulation. The effectiveness of implementing STEM-education in modern secondary education institutions depends on ensuring quality training conditions for future teachers, access to modern equipment and innovative technologies, as well as contemporary teaching methods and techniques. Currently, there is significant interest in the potential of STEM, particularly regarding its application in science, education, and production. This highlights the relevance of optimizing the process of preparing future educators for the application of STEM-technologies in the educational process of secondary schools and identifying effective organizational and didactic approaches to using STEM-technologies in training future teachers of natural sciences.

As I. Sachanyuk-Kavetska notes, «in addition to basic digital skills, modern teachers should be proficient in innovative practices for implementing various models of learning, including adaptive, synchronous and asynchronous, blended, self-directed, e-oriented, distance, cloud-based, mobile learning, virtual classrooms, electronic learning management systems, learning process management systems, CMS courses, gamification, personalization, etc». (Sachanyuk-Kavetska, 2021).

Modern education is undergoing a transformation driven by the demands of the information society and rapid technological development. In this context, the integration of STEM education (Science, Technology, Engineering, Mathematics) into teacher training particularly in the natural sciences becomes especially relevant. STEM education fosters future educators' abilities to combine theoretical knowledge with practical application, work collaboratively, engage in research activities, and develop critical thinking.

Analysis of recent research and publications. The issue of STEM education has been addressed by Ukrainian scholars such as I. Vasyliashko, S. Halata, O. Korshunova, N. Morze, O. Patrykeyeva, O. Shevchenko, among others. The formats of STEM education application in the educational process are the subject of academic investigations by researchers such as O. Buturlina, S. Kyrylenko, N. Morze, I. Slipukhina, and I. Chernetskyi.

Various aspects of STEM implementation in educational institutions attract the attention of both domestic and international researchers. Theoretical and methodological aspects of STEM education development have been explored by foreign scholars such as Heather Gonzalez, Jeffrey Kuenzi, David Langdon, Keith Nichols, among others.

Reviewing literature on the specifics of STEM education by N. Andrushchenko, N. Ivanyk, L. Koltok, O. Kuzmenko, O. Prymak, O. Shevchenko reveals its core principles:

- *Integration of disciplines* – combining content from science, engineering, arts, and mathematics for comprehensive study and optimal integration strategies.
- *Problem-based learning* – elements of problem-based learning help develop critical thinking and creative problem-solving skills, stimulating analytical and creative abilities.
- *Skills development* – focused on basic skills essential for holistic personality development, such as critical thinking, communication, collaboration, and creativity.
- *Project-oriented learning* – using projects and practical tasks based on STEM resources to develop relevant competencies.
- *Encouraging innovation* – exploring innovative learning forms using STEM technologies and applying them across various future professional fields.

THE PURPOSE OF THE RESEARCH

Based on content analysis of psychological and pedagogical scholarly sources and the study of materials describing international experience on the research problem, the article aims to highlight the organizational and didactic approaches to the application of STEM-technologies in the training of future teachers of natural sciences.

RESEARCH METHODS

The primary research methods used include comparative analysis of scientific materials on the selected topic and the description of empirical experience in implementing STEM-education. Based on modern methodological approaches (systemic, environmental, competence-based, activity-based, and personality-oriented), the phenomenological essence of STEM-education has been defined, and the educational potential and didactic role of high-tech STEM tools in a holistic educational process have been revealed. Within the framework of solving the set objectives, the conceptual and terminological framework has been specified, ensuring the necessary level of theoretical and methodological justification for the development and effective systemic use of high-tech tools and innovative digital solutions aimed at optimizing the application of organizational and didactic approaches to STEM-education elements in the professional training of future educators.

RESULTS OF THE RESEARCH

Presentation of the main material. The acronym STEM is formed from the capital letters of scientific and educational domains where educational activity takes place: Science, Technology, Engineering, and Mathematics.

The term STEM was first proposed by American bacteriologist R. Colwell in the 1990s, but it gained widespread use in the early 2000s. In educational practice, variants of the acronym are known where the letters A (STEAM) or R (STREM) are added. In the first case (STEAM), it includes the component related to the humanities and arts (Art), and in the second (STREM), it emphasizes the technocratic aspect of education (Robotics).

The essence of STEM-education lies in the scientific and technical training of future professionals in various educational fields, including natural sciences, by stimulating interest in acquired knowledge and strong motivation for pedagogical activity in modern educational institutions.

STEM-education is a process of effectively implementing integrative ideas and practical materials in robotics, engineering, modeling, and design, incorporating interdisciplinary and applied approaches.

According to didactic principles, STEM-education is a well-planned and organized process that combines the study of natural sciences with technology and mathematics, based on inquiry-based learning as the leading method of educational interaction.

Modern psychological and pedagogical science and school practice define STEM-education as a high-tech information and didactic tool, an innovative digital resource whose educational and developmental potential is actively utilized to optimize the educational process and promote the comprehensive development and self-development of learners.

Therefore, it is important to note that STEM-education is based on the principles of knowledge integration across different fields and bringing learning closer to real-life situations through the resolution of practice-oriented tasks.

In natural science disciplines, the STEM approach helps reveal connections between geography, biology, physics, chemistry, ecology, and modern technologies. In the educational process of preparing future educators for practical work, methods such as project-based learning, experimentation, situation modeling, laboratory simulations, and problem-based inquiry tasks are especially important.

The implementation of the Concept for the Development of STEM Education «foresees significant changes in the system of teacher training, particularly in higher and professional pre-tertiary education, as well as in postgraduate teacher education, where the process of preparing future natural science teachers to implement STEM technologies should become a key component of professional development, qualification improvement, and the introduction of innovative teaching methods» (Concept for the Development of Science and Mathematics Education, 2020).

The educational environment of higher education institutions should meet the natural curiosity of future teachers, their desire for exploration and discovery. Well-organized STEM education is capable of fulfilling these needs.

The organization of the educational process in natural sciences focuses on developing theoretical knowledge and improving practical skills for successful self-realization in a rapidly changing globalized world. This is supported by enhancing the applied orientation of natural science disciplines, expanding the volume of knowledge, and broadening the range of practical competencies.

As researcher I. Chervinska emphasizes, «STEM is a modern direction of additional education, in which various academic disciplines serve as a means for integrating several subject areas. It is an educational technology that enables the implementation of interdisciplinary project-based research, stimulates children's interest in high technologies and innovations, and serves as a forge for future engineering and technical specialists, who are lacking in today's high-tech industries» (Chervinska, 2017).

STEM (Science, Technology, Engineering, Mathematics) is a concept that involves the integration of four main fields of knowledge: science, technology, engineering, robotics, and mathematics. The application of STEM technologies in education involves using interdisciplinary approaches and integrating engineering and technological components into learning to develop learners' technical skills. This contributes to teaching natural sciences with an emphasis on the practical application of theoretical knowledge.

Organizational and didactic approaches to preparing future teachers of natural sciences for implementing STEM technologies are a crucial component of modern pedagogical education, as they ensure effective learning and the preparation of qualified teachers capable of innovatively teaching natural sciences (biology, chemistry, physics, geography).

These approaches focus on integrating knowledge from various disciplines, using modern pedagogical technologies, and developing the skills and competencies necessary to teach these subjects in accordance with the current educational requirements of the «New Ukrainian School» Concept. Organizational and didactic approaches to teacher preparation include a set of principles, methods, and technologies aimed at optimizing the educational process and preparing students for professional activity. In the case of training future natural science teachers, they are focused on ensuring deep knowledge and skills in areas such as mastering theoretical knowledge in relevant scientific disciplines, developing research skills, critical thinking, and innovative teaching approaches, and enhancing research and practical competencies for organizing and conducting lessons.

Preparing future teachers to implement the tasks of STEM-education in general secondary schools during natural science lessons requires their awareness of psychological and pedagogical courses and professional training disciplines. During their studies, students are introduced to modern approaches to organizing the educational process, options for digitalizing pedagogical activity, educational resources, and learning technologies.

Organizational and didactic approaches to applying STEM-technologies in training future teachers of natural sciences are an important aspect of modern educational reform, as high-quality STEM-education enables the integration of different disciplines, development of critical thinking, and enhancement of students' practical skills, which form the foundation for effective teaching in the future.

«The preparation of future science teachers for the use of STEM-technologies in the classroom involves the integration of these technologies into the educational components studied by students within the relevant educational and professional program, as well as during their teaching practicum». The implementation of these tasks will contribute to the development of relevant professional competencies, particularly those related to working with various digital tools that will be used in the actual educational process (Fig. 1).

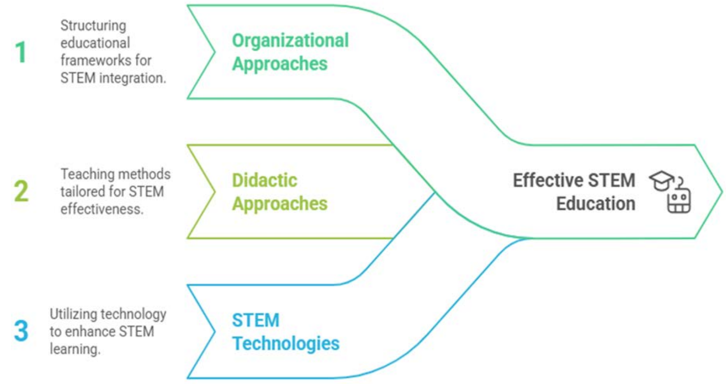

Fig 1. Integration STEM in Teacher Training

Thus, the leading organizational and didactic approaches in the process of preparing future science teachers for the implementation of STEM technologies in lessons at general secondary education institutions (GSEIs) include the following:

Integration of disciplines within educational programs or blocks of educational components.

Modern education is undergoing dynamic development, which necessitates the renewal of approaches to training future educators. STEM education, in particular, has gained significant relevance as it focuses on the development of practical skills, creative and critical thinking, teamwork, and the ability to solve real-world problems. In this context, the integrative approach to teacher preparation especially for science educators becomes increasingly important.

One of the key approaches is the integration of science subjects with other fields of knowledge, as well as interdisciplinary learning. This contributes to the formation of a comprehensive understanding of the world and facilitates learners' acquisition of knowledge. Examples of such integration include combining theoretical knowledge from biology and chemistry courses to explore complex biochemical processes or integrating geography with physics to study climatic phenomena.

An interesting option for integration is the use of project-based learning, during which students work on real interdisciplinary problems. This helps them develop creative and systemic thinking while also enhancing their practical skills. This process is illustrated schematically (in Fig. 2.)

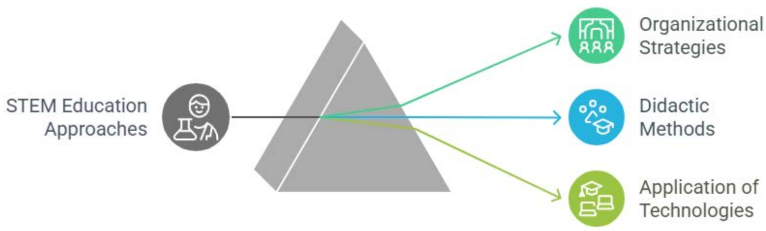

Fig. 2. Exploring STEM education for future science teachers

The integration of academic disciplines within the context of STEM education involves combining knowledge and methods from various fields of science to create a holistic understanding of natural and societal phenomena. This approach enables future educators to better comprehend interdisciplinary connections, design innovative educational projects and research, and apply acquired knowledge in practical activities. Therefore, it is essential to work on the development of professional and integral competencies necessary for the implementation of interdisciplinary learning.

The integration of disciplines into educational programs is a prerequisite for the effective preparation of future teachers for the implementation of STEM education. The realization of this approach within the educational process of higher education institutions not only fosters in-depth knowledge of natural sciences but also ensures the development of universal skills required in the 21st century. Effective implementation of integrated learning requires the renewal of curriculum content, the introduction of active teaching methods, the professional development of educators, and the creation of a supportive educational environment.

The modern education system demands a rethinking of traditional approaches to teacher training, particularly in the context of STEM education development.

One of the most effective means of preparing future educators for the implementation of STEM education is project-based learning, which promotes interdisciplinarity, practicality, and the development of 21st-century skills.

Preparing future educators for STEM education through project-based learning involves the creation of group-based educational projects such as studying the condition of a local ecosystem or designing STEM lessons for secondary schools. During project-based learning, students collaboratively plan, investigate, present their findings, and defend them in front of an audience, with the teacher acting as a facilitator.

Project-based learning plays a crucial role in the system of STEM teacher training, as it fosters critical and creative thinking, develops teamwork skills, and enhances research competencies through the integration of knowledge from different disciplines and orientation toward real-life problems. By completing educational projects, future teachers learn how to plan, conduct research, analyze results, and present their ideas. These competencies are fundamental for implementing the STEM approach in modern educational institutions.

Future teachers must gain experience working in teams on real-world problems, where they can apply knowledge from various scientific disciplines (geography, mathematics, physics, biology, chemistry), as well as use engineering and technical tools to address these challenges. Students can engage in the creation and implementation of interdisciplinary projects, such as modeling ecological processes, analyzing natural disasters, or designing innovative environmental protection initiatives.

This approach involves creating an environment that fosters collaboration and interaction among students, educators, stakeholders, and other participants in the educational process. The pedagogy of partnership and collaboration includes various forms of interaction, such as working in groups or pairs, where students not only collaborate but also discuss ideas and solve complex learning tasks together.

The pedagogy of partnership and collaboration is a modern approach to learning based on mutual respect, trust, dialogue, shared responsibility, and equality among all participants in the educational process. In the preparation of future teachers of natural sciences (biology, chemistry, physics, geography, etc.), this approach helps develop not only strong subject-specific knowledge but also pedagogical reflection, communication skills, the ability to work in a team, and the capacity to act as change agents. Detailed examples of applying the ideas of the pedagogy of partnership and collaboration are presented in Table 1.

Table 1.

Examples of Implementing Partnership and Collaborative Pedagogy in Geography Lessons

№	Activity Format	Description	Elements of Partnership	Expected Outcomes
1	Project “My City/Village on the Map of Ukraine”	Creating a map with descriptions of the natural and social features of the area	Joint planning, task distribution, group presentation	Development of research skills, teamwork
2	Debate “Globalization: Challenge or Opportunity?”	Discussing a controversial issue in a debate format	Peer learning, exchange of views, respect for others' opinions	Critical thinking, speech development, culture of dialogue
3	Route “Eco Trail”	Creating an interactive route using maps and GPS	Field collaboration, joint decision-making, sharing observations	Environmental awareness, integration of digital technologies
4	Statistics Analysis: “World Population”	Working with open data and visualizing results	Group analysis, discussion of results, collective evaluation	Data literacy, infographic creation, digital competence
5	Case Method: “Energy and Geopolitics”	Solving a real-world problem in a role-playing format	Collective problem-solving, role distribution, shared responsibility	Development of analytical and strategic thinking, empathy

Source: compiled by the author based on test

For the successful implementation of the pedagogy of partnership and collaboration, it is essential to adhere to its core principles:

- Subject-to-subject interaction between educators and higher education students as equal participants in the educational process.
- Dialogue and co-creation in learning through the exchange and joint construction of knowledge.

- Trust and respect, which foster open and tolerant relationships between educators and students.
- Shared responsibilities and accountability among all participants in the educational process, achieved through involvement in the planning, implementation, and evaluation of educational activities.

The advantages of such approaches in the preparation of future teachers of natural sciences, for example, future geography teachers, lie in the development of professional competencies (research, communication, social), and the formation of a pedagogical culture of cooperation. Overall, this contributes to increasing motivation to teach geography in an engaging and interactive manner.

The collective (cooperative) form of organizing educational activities involves learning in small groups united by a common educational goal. In this format, the teacher indirectly guides each participant's work through tasks that direct group activities. Cooperative learning methods offer students the opportunity to collaborate with peers, fulfill their natural desire for communication, and enhance learning outcomes and relevant competencies. These innovative learning methods integrate well and effectively with traditional methods and can be applied at various stages of the educational process.

The positive effect of cooperative learning is achieved through collaborative project work and participation in simulation laboratories. This makes cooperative learning one of the effective digital tools in a teacher's toolkit. Key components of educational interaction include positive interdependence, interpersonal communication that stimulates cognitive activity, individual and group accountability, communication skills, and reflection on interaction outcomes.

There are three main types of cooperative learning: formal, informal, and group-based. The choice of learning type during the educational process depends on its goals and objectives. A successful combination of all types of cooperative learning during the professional training of future teachers positively impacts task efficiency, motivation levels, and encourages active engagement both in and outside the classroom.

Among the most productive cooperative learning methods are: «think-pair-share», «say and switch»», «round table», «three-step interview», «learning together», discussion, didactic games, simulation, and project-based learning. Through these methods, students collaboratively develop and present research projects or create new didactic materials. By participating in cooperative projects using these methods, students develop their own thinking strategies while learning to collaborate with other participants in STEM projects. This interaction fosters the formation of integrated competencies and the ability to solve complex, combined tasks, as mutual support becomes the foundation for personal growth.

Researcher D. Elkins identifies several types of social skills that can be developed through cooperative learning:

1. *Social relationship skills* – Skills that help build interpersonal relationships, such as introducing oneself, apologizing, or asking for help.

2. *Peer-related social skills* – Skills involving interaction with teammates to achieve common goals.

3. *Person-oriented behavior* – Through this, learners evaluate social situations, learn emotional regulation, and understand their own feelings.

4. Communication skills – These include active listening, turn-taking, and providing feedback (Barna, 2017).

When organizing cooperative activities, it's best to use active learning methods and various creative exercises that promote social skill development, cognitive engagement, creativity, and independence.

Future teachers of natural sciences must possess not only theoretical knowledge but also well-developed practical skills for organizing practice-oriented education and conducting laboratory work. This includes working with technical devices, functional models, and software tools.

Solid theoretical knowledge and well-formed professional competencies enable the implementation of integrated laboratory work in physics, chemistry, biology, and geography. Such integration helps students grasp the core of interdisciplinary educational content, understand the processes they will later teach, and better absorb the methodological principles of STEM technologies. Using digital tools and virtual or simulated laboratories allows for the execution of experiments that are difficult to perform in real settings (simulating chemical reactions or modeling natural landforms).

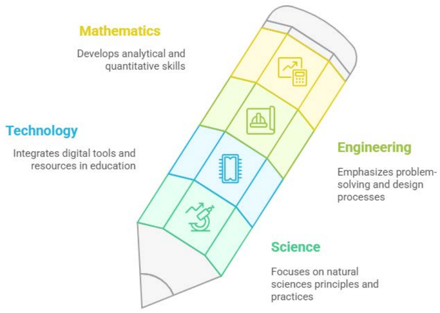

Fig. 3. Enhancing Teacher Training with STEM

One of the key aspects of preparing future science teachers is the development of skills for independent work and critical thinking. To achieve these goals, it is necessary to use methods such as the case method, real-world case studies, and practical examples. These enable students to apply scientific knowledge to real-life situations.

Organizing independent research projects, where students can conduct their investigations in various types of laboratories using digital tools, facilitates the mastery of new strategies for structuring the educational process and building effective mechanisms for acquiring practical competencies.

Integration of STEM Learning into the Curriculum. To effectively implement STEM technologies in the training of future natural science teachers, it is necessary to revise the structure of educational curricula. These curricula should include not only scientific disciplines but also courses that incorporate technical and engineering aspects (Fig.3).

This may include: specialized courses in programming and robotics; modules focused on modeling technologies and 3D design; courses in data processing and analysis (statistics, the use of modeling and visualization software); practical and laboratory sessions that provide opportunities to apply STEM technologies in solving real educational tasks.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

To work effectively with STEM technologies, teachers must possess proficiency in modern information and communication technologies (ICT), which support the integration of educational materials and enhance the learning process through the use of software for modeling scientific phenomena (e.g., mathematical models, virtual laboratories). They also need a foundational knowledge of programming, which enables them to incorporate coding into educational processes (e.g., through simple modeling programs or working with sensors and data-collecting devices), as well as the ability to use platforms for online learning and conducting remote lessons.

Future scientific research should focus on exploring the potential of STEM technologies in the professional training of future teachers of natural science disciplines.

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РОЛЬ ЕМОЦІЙНОГО ІНТЕЛЕКТУ У ВЗАЄМОДІЇ УЧАСНИКІВ ОСВІТНЬОГО ПРОЦЕСУ ЗАКЛАДУ ВИЩОЇ ОСВІТИ

Анотація. Авторами розкрито сутність поняття «емоційний інтелект» здійснено аналіз слів «інтелект» та його різноманітні когнітивні характеристики. У статті зазначено, що для ефективного онлайн-спілкування в умовах освітнього середовища закладу вищої освіти всім учасникам освітнього процесу необхідно мати, окрім високого рівня комунікативної мовленнєвої культури та культури спілкування, належний рівень емоційного інтелекту.

Наголошується, що розвинутий емоційний інтелект під час стресових ситуацій в умовах воєнного часу сприяє командній роботі здобувачів освіти, налагодженню індивідуального розвитку кожного, запобіганню конфліктним ситуаціям, емоційному вигоранню. Загалом, розвиток емоційного інтелекту відіграє важливу роль у створенні позитивного середовища під час війни та конфліктів.

Серед провідних аспектів емоційного інтелекту учасників освітнього процесу у статті визначено такі: емоційну саморегуляцію; емпатію, спроможність вирішувати конфлікти, комунікаційні навички та стресостійкість. Наголошується, що розвиток емоційного інтелекту залежить від когнітивних особливостей особистості, від сформованості розуміння сутності й значення емоцій, від вироблених навиків емоційного реагування.

Авторами на основі проведеного контент-аналізу наукової психолого-педагогічної літератури та спостережень за організацією навчання, визначено роль і місце емоційного інтелекту в системі комунікативної взаємодії учасників освітнього процесу в час воєнної доби, розкрито позитивні якості цієї взаємодії. Вказано, що під час роботи над організацією дослідження використовувався комплекс загальнонаукових методів, що уможливило визначення ключових аспектів проблеми розвитку емоційного інтелекту. Емпіричні методи використовуввалися для збирання науково-дослідницького матеріалу, бесіди з науково-педагогічними працівниками щодо їхньої готовності до реалізації ідей, форм та моделей застосування технологій емоційного інтелекту в освітньому процесі сучасних закладів освіти.

Ключові слова: емоції, інтелект, емоційний інтелект, взаємодія, освітній процес, заклвд вищої освіти, воєнний час.

THE ROLE OF EMOTIONAL INTELLIGENCE IN THE INTERACTION OF PARTICIPANTS OF THE EDUCATIONAL PROCESS OF A HIGHER EDUCATIONAL INSTITUTION

Abstract. The authors reveal the essence of the concept of «emotional intelligence» and analyze the words "intelligence" and its various cognitive characteristics. The article states that for effective online communication in the educational environment of a higher education institution, all participants in the educational process must have, in addition to a high level of communicative speech culture and culture of communication, an appropriate level of emotional intelligence.

It is emphasized that developed emotional intelligence during stressful situations in wartime contributes to teamwork of students, the establishment of individual development of each, the prevention of conflict situations, emotional burnout. In general, the development of emotional intelligence plays an important role in creating a positive environment during war and conflicts.

Among the leading aspects of the emotional intelligence of participants in the educational process, the article identifies the following: emotional self-regulation; empathy, the ability to resolve conflicts, communication skills and stress resistance. It is emphasized that the development of emotional intelligence depends on the cognitive characteristics of the individual, on the formation of understanding of the essence and meaning of emotions, on the developed skills of emotional response.

Based on the conducted content analysis of scientific psychological and pedagogical literature and observations of the organization of training, the authors determined the role and place of emotional intelligence in the system of communicative interaction of participants in the educational process during the war, revealed the positive qualities of this interaction. It is indicated that during the work on the organization of the study, a complex of general scientific methods was used, which made it possible to determine the key aspects of the problem of the development of emotional intelligence. Empirical methods were used to collect scientific and research material, conversations with scientific and pedagogical workers regarding their readiness to implement ideas, forms and models of applying emotional intelligence technologies in the educational process of modern educational institutions.

Keywords: emotions, intelligence, emotional intelligence, interaction, educational process, higher education system, wartime.

INTRODUCTION

The problem formulation. In the conditions of the full-scale Russian-Ukrainian war, the problem of understanding the essence of emotional intelligence and its role in the interaction process of participants in the educational process is becoming increasingly relevant for the educational community. Military actions and all the terrible events, narratives, and triggers associated with them significantly influence the organization of pedagogical activities in educational institutions, the ways of life and interaction between the subjects of this process, and the stability or instability of the emotional state of students.

A properly formed and well-developed level of emotional intelligence allows an individual to find support within themselves to maintain their emotional state, even in conditions of constant stress. That is why, since the beginning of the war, the implementation of problems related to preserving the psychological-pedagogical and spiritual balance of a person, through the introduction of educational disciplines in institutions that deepen the study of the essence and manifestations of the emotional intelligence of a growing personality, has become particularly significant.

Despite the difficult socio-economic situation in our country caused by military actions, students continue their education and need organized psychological support to adapt to a new environment and develop effective stress resistance skills for the realities of today.

As researcher T. Repnova notes, «this issue requires a detailed study of the socio-psychological factors that can cause unstable or stable reactions of students to stress, help them counteract stress factors, increase psychological culture, emotional intelligence, and improve their social adaptation in wartime conditions» (Repnova, 2023, p. 208).

Under these circumstances, the development of emotional intelligence in the subjects of the educational process, the features of their communication, and educational cooperation are decisive indicators of the effectiveness of subject competencies, the level of professional training, and the skills of constructive interaction.

Analysis of recent research and publications. The study of the phenomenon of «emotional intelligence» is conducted by representatives of both fundamental and applied sciences in the fields of educational management, psychology, pedagogy, sociology, and philosophy. Such interest in the issue is due to the specificity of the development of emotional intelligence at a particular stage of a young person's life, its manifestations in professional activity, and its impact on success and comprehensive development.

The concept of «emotional intelligence» as a complex of human psychological properties was first formulated and introduced into psychological theory by American scientists in the 1990s («emotional intelligence»).

The term «emotional intelligence» gained particular popularity with the publication of Daniel Goleman's book «Emotional Intelligence» (1995) (Goleman, 1995). Foreign researchers of emotional intelligence, R. Bar-On, D. Goleman, J. Mayer, and P.Salovey, emphasize that a high level of emotional intelligence can contribute to physical, mental, moral-spiritual, and social well-being, increasing the life activity and interaction of a growing individual with the people around them in family, educational institutions, and during leisure activities.

American psychologist-researcher and journalist D. Goleman associates emotional intelligence with the ability to manage one's emotions and the ability to motivate oneself. In this context, Goleman and his followers emphasize that possessing a high level of emotional intelligence allows a growing personality to be successful in various fields and spheres of human activity. According to D. Goleman, «the intellectual component plays a leading role in the structure of emotional intelligence, and emotional intelligence itself should be considered as a holistic complex of diverse components, including understanding one's own emotions, understanding the emotions of others, the ability to self-regulate emotional states and abilities, and the ability to influence other people» (Goleman, 1995). According to J. Mayer and P. Salovey, «emotional intelligence is the ability to perceive, evoke emotions, enhance thinking efficiency, understand emotions, and regulate them for emotional and intellectual development» (Mayer & Salovey, 1993).

In this context, it is worth noting that scholars have expanded and somewhat modified the generally accepted traditional concept of intelligence, which was previously defined as one based on or derived from verbal skills. As professional psychologists, researchers provided examples of interpersonal relationships where significant emotional interaction takes place, playing an important role in the life of young individuals and society in general.

The modern state of its development is characterized by «scientific comprehension of the nature of this phenomenon, the emergence of various conceptual approaches to understanding its structure, the substantiation of both theoretical foundations and applied significance, and the development of psychodiagnostic methods for its measurement» (Rakitnyanska, 2020).

Scholars (T.Berezovska, V.Zarytska, L.Rakitnyanska, M. Shpak) emphasize that the ability to manage emotions is a necessary condition for the successful integration of an individual into society and the environment surrounding them. However, it is worth emphasizing that among foreign researchers of emotional intelligence, there is no consensus regarding the definition of the essence of emotional intelligence and the characterization of its positive and negative effects on personality development.

AIM OF THE RESEARCH

The purpose of this article is, based on a content analysis of scientific psychological and pedagogical literature and observations on the organization of education, to determine the role and place of emotional intelligence in the system of communicative interaction of participants in the educational process during wartime, to reveal the positive aspects of this interaction, and to focus attention on the problematic aspects of this complex process.

RESEARCH METHODS

A set of general scientific methods was used in organizing the research. Theoretical methods facilitated the generalization and analysis of psychological and pedagogical literature, enabling the identification of key aspects of emotional intelligence development. Empirical methods included methods of collecting research material (questionnaires for students, surveys, analysis of legal documents related to emotional intelligence), and interviews with academic and teaching staff regarding their readiness to implement ideas, forms, and models for applying emotional intelligence technologies in the educational process of modern institutions.

RESULTS OF THE RESEARCH

For a deeper understanding of the concept of «emotional intelligence», an analysis of the word «intelligence» and its various characteristics is necessary. Intelligence refers to the cognitive ability associated with processing large amounts of information.

«Intelligence (from Latinю intellectus – understanding, comprehension) is a relatively stable structure of an individual's mental abilities. In several psychological concepts, intelligence is equated with a system of mental operations, problem-solving style and strategy, the effectiveness of an individual approach to situations requiring cognitive activity, cognitive style, etc.» (Psychological Encyclopedia, 2006).

Emotional intelligence is a fairly complex phenomenon that unites emotions and intelligence. In modern realities, emotional intelligence is one of the important personal characteristics and professional competencies that contribute to the successful integration of an individual into society, allowing them to present their projects, position themselves in different communities, establish positive relationships, and build effective cooperation.

Intelligence is the ability to think and the capacity for abstract knowledge. It includes functions such as comparison, abstraction, formation of concepts, judgments, inferences, reasoning, and expressions. Research by Ukrainian and foreign scholars describe such derivative concepts of «intelligence» as «general intelligence», «social intelligence», «special intelligence», and «emotional intelligence». This highlights the multi-component nature of the «intelligence» phenomenon. Thus, intelligence can interact closely with educational and cognitive processes, as well as hereditary and social factors.

«Emotional intelligence (Emotional Intelligence) is the ability (a set of abilities) of an individual to interpret, explain their own emotions and the emotions of others, with the goal of using the information obtained to achieve personal goals». Emotional intelligence is understood as «the ability to process information contained in emotions» (Goleman, 1995).

Emotional intelligence is a complex phenomenon that unites emotions and intelligence. In modern realities, emotional intelligence is one of the important personal characteristics and professional competencies that contribute to successful integration into society (classmates, groupmates, friends, colleagues, employees, business partners), presenting one's own projects, positioning oneself in different communities, building positive relationships, and establishing effective cooperation.

Thus, emotional intelligence is a set of intellectual abilities of a person to understand various emotions and manage them. Overall, emotional intelligence is the ability to recognize, understand one's own and others' emotions and manage them.

However, to be successful and achieve victories, it is not enough just to possess intelligence; one must also possess emotional intelligence. The development of emotional intelligence depends on the cognitive characteristics of the individual, the formation of understanding the essence and significance of emotions, and the development of emotional response skills. Interesting, in our opinion, are the possible connections between emotional intelligence, various personal characteristics of participants in the educational process, and the characteristics of the socio-cultural educational environment in which young people find themselves.

Developed emotional intelligence helps solve practical tasks and achieve defined goals in education, work, and personal life. Young people with developed emotional intelligence possess communication, mediation, and management skills, which positively impact negotiation processes and decision-making methods, and help them respond adequately to problematic situations.

Thanks to understanding emotional states and perceiving certain emotions, we react better to events in the surrounding life, verbal characteristics, virtual images, and life events. If we do not try to understand the emotions of others and respond accordingly, it leads to a loss of perception of reality and provokes various conflict situations.

People with well-developed emotional intelligence typically analyze the causes of conflict situations first, then respond to the actions or emotions of others. This helps them to perceive criticism adequately and respond correctly to the behavior and actions of their interlocutors participants in various educational interactions.

Emotional intelligence is the ability of an individual to manage their emotions, to motivate themselves, and to purposefully and persistently move toward a defined goal, despite difficulties and obstacles.

As for the structure of emotional intelligence, scientists identify the following main characteristics or «abilities»:

1. The ability to perceive and identify emotions and emotional states both in oneself and in others. This is manifested through the ability to see and define emotions based on various signs that characterize the physical state of a developing individual.

2. The ability to intentionally evoke a particular emotion and then establish appropriate control over it. In this case, it can facilitate the thinking process of an individual during educational interactions and the organization of socio-emotional learning. Social-emotional learning activates processes that contribute to the successful assimilation and effective application of knowledge, skills, and competencies, which are necessary for understanding one's emotions as well as managing the emotional states of others.

3. The ability to understand emotions. This involves the ability to comprehend emotions as they transition to another level, to interpret, and to become aware of them.

4. The ability to manage the feelings and emotions of others. These abilities allow individuals to interpret the emotions of people, students, groupmates, neighbors, practitioners, colleagues, etc. However, all these actions depend on their significance (usefulness or harmfulness) for a particular individual.

Emotional intelligence has been identified at the World Economic Forum in Davos, Switzerland, as one of the competencies included in the list of the most sought-after competencies for individuals in the modern labor market, in the context of the requirements of the Fourth Industrial Revolution.

This recognition is primarily due to the fact that understanding the essence of emotions and the ability to manage them is extremely important in the process of social interaction and professional activities.

Emotional intelligence is the ability of a person to recognize, understand, manage, and influence both their own emotions and the emotions of others. This term became popular due to the works of psychologist Daniel Goleman, who identified key components of emotional intelligence.

Emotional intelligence is considered in different models:

- As an ability model (D. Mayer and Salovey, 1997; Brackett and Salovey, 2006);
- As emotional-social intelligence (R. Bar-On, 2006);
- As a model of emotional competencies (Goleman, 1995, 2001).

Researchers P. Salovey and J. Mayer identified four main components that reflect both a person's own emotions and the emotions of others (Salovey & Mayer 1997). The structure of a person's emotional intelligence includes:

- Awareness of one's feelings and emotions,
- Management of one's feelings and emotions,
- Awareness of the feelings and emotions of others,
- Interaction with the feelings and emotions of others (Fig.1).

Fig. 1. The structure of human emotional intelligence.

Scholars distinguish several key aspects:

Emotion identification (perception of emotions, appropriate expression of emotions, ability to differentiate between genuine emotions and their imitations).

Using emotions to enhance thinking efficiency and various types of activities (ability to use emotions to direct attention to significant events and phenomena, solve creative tasks, and generate innovative ideas).

Understanding emotions (ability to grasp the complexity and interconnection of emotions, understand verbal emotional signals).

Emotion management (ability to control emotions, reduce the intensity of negative emotions, and resolve emotionally difficult or unstable problems). Effective emotion management contributes to personal growth and significantly improves interpersonal relationships among students and educators.

Researcher R. Bar-On suggests considering emotional intelligence as a combination of different spheres (Intrapersonal sphere, Interpersonal relationships sphere, Adaptability sphere, Stress management sphere, General mood sphere (Fig.2).

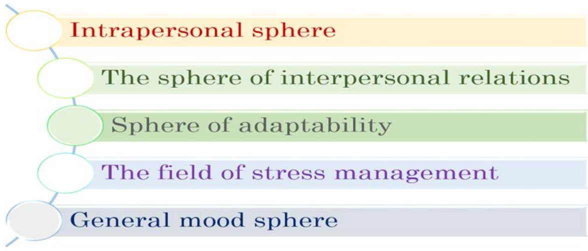

*Fig. 2. Spheres of emotional intelligence * (R. Bar-On, 1995).*

Thus, emotional intelligence is the ability to understand and manage one's own emotions as well as the emotions of others. The development of emotional intelligence among students facilitates social adaptation within the collective, helps effectively communicate with others, and resolve conflicts. Emotional intelligence fosters empathy, logical thinking, and resilience to stress.

According to research from the Center for Emotional Intelligence at Yale University, IQ also depends on the level of emotional intelligence. Youth with well-developed emotional intelligence perform better in education, read more, and engage more frequently in sports and arts. Factors indicating the development of emotional intelligence include:

- Ability to express emotions in words or images (e.g., drawings, graphical representations, clip art);
- Ability to listen and hear other participants in communication;
- Readiness to accept criticism.
- Types of emotional intelligence are classified as follows:

By development level:

High emotional intelligence – the person effectively controls emotions, exhibits empathy, and communicates successfully with peers and elders.

Medium emotional intelligence – the person partially controls emotions but mostly reacts impulsively.

Low emotional intelligence – emotions dominate behavior, making it difficult for the person to understand others.

By application sphere: personal emotional intelligence – management of one's own emotions and self-awareness; social emotional intelligence – ability to interact with others and understand their feelings.

The development of emotional intelligence follows established principles:

Principle of self-reflection – analyzing one's own emotions, experiences, and behavior.

Principle of awareness – differentiating emotions from actions.

Principle of empathy – understanding others without judgment.

Principle of self-regulation – controlling emotional impulses.

Principle of adaptability – adjusting behavior based on the situation.

Key functions of emotional intelligence include:

Cognitive function – better perception, analysis, and use of information.

Communicative function – improving communication efficiency and understanding non-verbal signals.

Regulatory function – managing one's emotions and maintaining psychological balance.

Social function – fostering trust-based relationships and conflict resolution.

These functions help better understand the essence of emotional intelligence and its multifaceted role in solving various challenges.

The emotional intelligence of a teacher and a student is important for successful educational interaction and the creation of a positive educational environment. As O. Bashkir emphasize, «the emotional intelligence of a teacher is revealed through the following components:

- empathy (the ability to feel and understand the emotions of students; a teacher who understands students' experiences can better respond to their needs);
- self-regulation, stress management (the ability to effectively manage one's own stress and demonstrate resilience in unforeseen situations);

- communication skills (expressing thoughts and ideas clearly and expressively, the ability to perceive and respond to students' requests);
- personal motivation (the ability to inspire and motivate students);
- self-knowledge (understanding one's own emotions and the impact that this can have on the teacher's own effectiveness)» (Bashkir, 2023).

The structure of emotional intelligence includes components: such as self-awareness, personal motivation, self-regulation, empathy, and communication skills. (Fig. 3.).

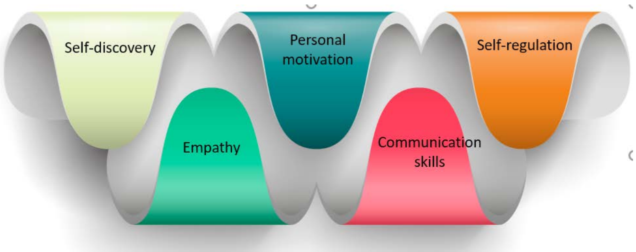

Fig. 3. The structure of emotional intelligence includes.

The development of emotional intelligence is a complex and multi-stage process, which largely depends on a number of factors, including methods and innovative technologies for organizing the educational process, the specifics of subject-subject interaction in the «teacher-student» plane, the formation of competencies, and the individual psychological characteristics of the participant in educational interaction. It is important that the student be positively disposed to interaction with others, work on the level of development of his emotional intelligence. To optimize the initial interaction, the teacher can use various innovative methods, creative exercises and non-standard tasks aimed at the development of emotional competence. It is also important, as researchers O. Igumnova and A. Yaroslavskaya emphasize, «to create a supportive learning environment where the student feels supported and has the opportunity to express his emotions» (Igumnova & Yaroslavskaya, 2019, p.43).

Regarding the readiness of the student for this process, «it is important to take into account his own feelings, interests, and motivation. If he is positive and ready to engage in the development of his emotional intelligence, then learning will be more effective. Success may also depend on how freely the student allows himself to express his emotions and interact with them» (Kuznetsov, 2015).

To better illustrate the essence of emotional intelligence, it is helpful to analyze its advantages and disadvantages. Positive aspects include:

- Improved self-esteem and psychological stability of a growing personality;
- Strengthening interpersonal relationships in the educational process;
- Reducing stress and anxiety, which is crucial in wartime conditions;
- Enhancing decision-making quality;
- Supporting career growth and leadership skills.

Negative aspects of emotional intelligence include:

Excessive self-control, which may lead to emotional suppression;

High empathy can cause emotional burnout;

Use of emotional intelligence for manipulative purposes (emotional manipulators);

Strong emotional control may create the impression of a «cold,» unemotional personality.

Emotional intelligence is a skill that influences all areas of life, from personal relationships to career growth. Developing emotional intelligence allows individuals to manage emotions, understand others, and build a harmonious life.

In today's realities, emotional intelligence is a subject of scientific discourse not only among psychologists but also among researchers from various fields – educators, social workers, practical psychologists, psychiatrists, sociologists, and philosophers. They study emotional intelligence to generalize its specific manifestations in educational interaction and interpersonal communication, highlighting its positive aspects, determining ways to form different emotional competencies, and investigating how acquired skills contribute to further development.

Although researchers sometimes disagree on the fixed components of emotional intelligence, most concur that it can be developed through systematic training and practical experience. To implement these tasks, renowned American scientists P.Salovey and J. Mayer developed a specific algorithm for measuring emotional intelligence, which is divided into four sequential stages:

1. Perception of emotions,
2. Use of emotions,
3. Understanding emotions,
4. Influence on emotions (Salovey & Mayer, 1997).

Thus, emotional intelligence in modern wartime realities is a crucial personal competency that allows individuals to be communicative, flexible, expressive, able to set priorities, and choose the most effective ways to achieve their goals. Emotional intelligence promotes both professional and personal self-realization. In wartime conditions, organizing the educational process through distance or blended formats has become a challenge for both educators and students.

However, it is essential to emphasize that an online environment requires special approaches to its organization, the selection of interactive methods and modern forms of interaction, and knowledge of students' emotional-psychological state, readiness for interaction, and active communication.

Online education is a challenge for any educational setting, particularly for inclusive education. In an offline format, educators have developed pedagogical strategies over many years, selecting optimal methods for effective application in the educational process. However, an online environment requires consideration of each student's individual characteristics regarding communication, emotional, and psychological states, and perception of material through digital technologies. «The latter have a common nature, are vital for an effective professional and life self-determination of any individual, regardless of occupation presenting a key importance for professional development and career growth. Such skills include communication, leadership, teamwork, self-awareness, empathy, emotional intelligence, and much more» (Blyznyuk, 2023).

The importance of emotional intelligence in modern life is highlighted by its growing relevance during wartime. We observe various media and social networks emphasizing the necessity of developing emotional intelligence for effective communication, academic success, and overall well-being.

Emotional intelligence has become particularly significant for participants in the educational process during the full-scale war. War and military actions create a background stress, while well-developed emotional intelligence helps maintain balance, find internal support, and sustain emotional stability under constant stress. It is crucial to recognize the emotional state of young individuals and show empathy toward them during such challenging times.

Internally displaced persons, currently numbering over 4.5 million, experience acute stress due to these events. «Under these circumstances, teachers are faced with a difficult task – to continue high-quality education of students in possible and accessible, and most importantly – safe formats for a specific region, using optimal distance learning resources. These circumstances have not only caused certain inconveniences associated with the traditional way of organizing education, the use of alternative platforms and digital learning formats, but also opened a window for searching for new opportunities and initiatives» (Chervinska, 2024).

The ability to be aware of one's own emotions and emotional states develops through training. To achieve this, a range of active methods, techniques, and exercises can be used, which will not only promote the development of emotional self-awareness but also help cope with negative emotions in crisis situations. Exercises such as mini-meditations, mindfulness practices, keeping an «Emotion Diary» and techniques for stabilizing emotional states (Basyuk, 2023) will be useful.

A high level of emotional intelligence is a necessary competence for a modern person, a professional in any field. The ability to manage one's emotions, understand the emotions of others, optimism, motivation, the ability to support others, and empathy – all of these qualities are extremely important for the growing personality. The higher the level of emotional intelligence, the quicker we can help others. The better developed our emotional culture, the less prone we are to stress and emotional burnout. This becomes particularly valuable in the context of war in our country.

The presence of well-developed emotional intelligence in a young person enables them to be more adaptive and adjust more easily to changes in their living environment. This is achieved through the ability to control internal impulses and emotional states. This becomes especially important and significant in conditions of instability, uncertainty, and anxiety, as well as the lack of a safe environment created by the realities of martial law, in which the individual remains for a certain period. In the current realities of societal development, emotional intelligence becomes an important personal competence that allows a growing personality to be communicative, flexible, and sufficiently free and independent in expressing their own thoughts. It also helps in determining priorities and choosing the most effective ways to achieve their goals.

Analysis of the life activities of modern youth confirms that they are increasingly immersed in the Internet space and various gadgets, which negatively affects their development in terms of establishing effective interactions with other people, parents, and peers. Communication in the online space and communication in real life with real people differ significantly, both emotionally and communicatively. Research by scientists (Karpenko, 2020) shows a direct link between social interaction and the level of emotional intelligence, confirming our observations. Young people with highly developed emotional intelligence traits are usually optimists who easily adapt to the demands of their environment, possess high empathy, are highly competent in interpersonal communication, are satisfied with their lifestyle, and use adaptive strategies to cope with stress in negative situations.

Emotional intelligence is the ability to understand one's own emotions and perceive the emotions of others. Emotional intelligence is important in all areas of human activity, but it becomes especially significant in education and healthcare. In medicine, emotional intelligence plays a key role, particularly in the context of effective interaction between doctors and patients, and collaboration between doctor-colleagues. That is, in terms of establishing positive interpersonal relationships and communication in the workplace. Thus, emotional intelligence is important not only for educators and doctors in general but also for managers of educational institutions and doctor-leaders.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Given the demand for highly developed emotional intelligence, both students and teachers should acquire knowledge, rules, and skills for applying the norms of educational interaction in practice, adhering to the rules of effective communication, and establishing effective feedback. In other words, interaction should be established in such a way that there is no double interpretation of the meaning of statements, learning to feel the interlocutor, choosing the most appropriate words and structures for each case, practicing empathy towards others, and constant reflection based on one's own feelings and experiences. The prospects for further scientific research are connected with studying the development of emotional intelligence in the process of practical activity and business communication.

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ЦИФРОВІЗАЦІЯ ЯК ЧИННИК РОЗВИТКУ ІННОВАЦІЙНОГО МИСЛЕННЯ ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ

Анотація. У статті здійснено ґрунтовний аналіз проблеми впливу цифровізації на розвиток інноваційного мислення здобувачів вищої освіти. Розкрито сутність понять «цифровізація», «інноваційне мислення». Проаналізовано нормативно-правові документи розвитку цифрової економіки та суспільства України, що вказують на необхідність інтеграції цифрових інструментів в освіту для сприяння розвитку інноваційного мислення студентів.

Окреслено виклики, пов'язані з впливом цифровізації на розвиток інноваційного мислення здобувачів вищої освіти, розв'язання яких потребує комплексного підходу, що включає підвищення цифрової грамотності, модернізацію освітніх програм у закладах вищої освіти, забезпечення рівного доступу до технологій та розвитку етичних і соціальних навичок у цифровому середовищі.

Охарактеризовано особистісні якості здобувачів вищої освіти, що пов'язані з розвитком інноваційного мислення: генерація нових нестандартних ідей; відмова від стереотипів і шаблонів; прагнення пізнавати нове; уміння за потреби використати досвід інших; здатність до аналізу, синтезу та узагальнення; оригінальність поглядів та гнучкість мислення; здатність до творчого вирішення професійних проблем; орієнтація на отримання практичного досвіду; пошук різних способів реалізації професійних ідей.

Здійснено емпіричне дослідження розвитку інноваційного мислення здобувачів вищої освіти. За результатами анкетування визначено, що цифрові технології, зокрема, освітні платформи, онлайн-бібліотеки та програми для обміну знаннями, значно покращують навчальний процес і сприяють розвитку інноваційного мислення та формуванню професійних компетентностей студентів, що є важливою складовою їхньої професійної підготовки до роботи в умовах цифрової трансформації освіти.

Зроблено висновки, що цифровізація є важливим чинником розвитку інноваційного мислення здобувачів вищої освіти, а цифрові технології є потужним інструментом для організації освітнього процесу в умовах інформатизації суспільства та полегшують засвоєння навчального матеріалу, сприяють співпраці, самореалізації та професійному становленню майбутніх фахівців.

Ключові слова: цифровізація, цифрова освіта, цифрова трансформація освіти, інноваційний розвиток, цифрові технології, цифрове середовище, інноваційне мислення, здобувачі вищої освіти.

DIGITALIZATION AS A FACTOR OF THE DEVELOPMENT OF INNOVATIVE THINKING OF HIGHER EDUCATION STUDENTS

Abstract. The article provides a comprehensive analysis of the impact of digitalization on the development of innovative thinking among higher education students. The essence of the terms «digitalization» and «innovative thinking» is revealed.

Normative and legal documents on the development of Ukraine's digital economy and society are analyzed, emphasizing the necessity of integrating digital tools into education to promote the development of students innovative thinking.

Challenges related to the influence of digitalization on the development of innovative thinking of higher education students are outlined, the solution of which requires an integrated approach, including enhancing digital literacy, modernizing educational programs in higher education institutions, ensuring equal access to technology and developing ethical and social skills in the digital environment.

The personal qualities of higher education students associated with the development of innovative thinking are characterized: generating new and unconventional ideas; rejection of stereotypes and templates; desire to learn new things; ability to use the experience of others, if necessary; ability to analyze, synthesize and generalize; originality of views and flexibility of thinking; ability to creatively solve professional problems; focus on gaining practical experience; search for different ways to implement professional ideas.

An empirical study of the development of innovative thinking among higher education students was conducted. The results of the survey indicate that digital technologies, including educational platforms, online libraries, and knowledge-sharing programs, significantly enhance the learning process, promote innovative thinking, and contribute to the formation of students professional competencies an essential component of their professional readiness for the digital transformation of education.

It is concluded that digitalization is an important factor in the development of innovative thinking of higher education students, and digital technologies are a powerful tool for organizing the educational process in the context of society informatization and facilitate the assimilation of educational material, promote cooperation, self-realization and professional development of future professionals.

Keywords: digitalization, digital education, digital transformation of education, innovative development, digital technologies, digital environment, innovative thinking, higher education students.

INTRODUCTION

The problem formulation. Digitalization is an important factor in economic, technological, educational, social, cultural and other changes in society. According to the Concept for the Development of the Digital Economy and Society in Ukraine, one of the priorities of digitalization is the development of a substantial national digital education policy, as it is a key part of the educational reform in Ukraine (Concept for the development of the digital economy and society of Ukraine for 2018-2020 and approval of the action plan for its implementation, 2018).

The Digital Agenda of Ukraine (Tsyfrova adzhenta Ukrainy – 2020) states that it is advisable to start digitalization with higher education institutions. The current realities of today require rethinking approaches to the training of higher education students in the context of the digital transformation of education. Today, the activities of higher education institutions must focus on preparing highly qualified and competitive specialists capable of successfully competing in the modern labor market. In addition, the educational process should ensure that students are trained to international standards, have in-depth knowledge in their field, are eager to innovate, think critically, and are capable of social and professional mobility, which will facilitate their integration into professional communities both nationally and internationally.

Experience has shown that in order to be competitive in the labor market, competent and successful in professional activities, it is important not only to know and master existing techniques, but also to be able to create something new, improve or modernize the existing one, which in turn requires innovation in the thinking of future professionals. All of this is the basis for training competent professionals with developed innovative thinking who can make a significant contribution to the development of modern society and education.

Analysis of recent research and publications. Scientists (V. Bykov, L. Baranovska, S. Honcharenko, O. Dzhedzhula, A. Kolomiiets, V. Kremen, N. Kuzmina, L. Liubchak, N. Nychkalo, L. Sultanova, O. Piekhota, O. Pometun, H. Tarasenko, L. Khomych, V. Shakhov, and others) are actively exploring ways to improve professional education and implement models for introducing new innovative and information technologies. Theoretical aspects of innovative thinking, its essence, and structure have been studied in the works of both foreign and domestic researchers: A. Kharchenko, A. Hritchenko, E. Korolova, L. Kholodkova, N. Kozyriova, R. Pavlovych, O. Ponomarov, R. Pavlovych, S. Soboliev, T. Kuznetsova, and others.

THE AIM AND RESEARCH TASKS – to investigate the impact of digitalization on the development of innovative thinking among higher education students.

RESEARCH METHODS: to include analysis and synthesis, the systems method, surveys, questionnaires, generalization, and the study of normative and legal documents concerning the digital transformation of education.

RESULTS OF THE RESEARCH

The Concept for the Development of the Digital Economy and Society of Ukraine for 2018–2020 defines digitalization as the saturation of the physical world with electronic and digital devices, tools, systems, and the establishment of electronic communication exchanges between them. This process enables integral interaction between the virtual and physical worlds, creating a cyber-physical space Concept for the development of the digital economy and society of Ukraine for 2018-2020 and approval of the action plan for its implementation, 2018).

In light of this problem, we identify certain challenges related to the impact of digitalization on the development of innovative thinking of higher education students, namely: uneven access to modern digital tools, technical equipment and fast Internet; lack of digital skills, insufficient training of teachers and students to work with the latest digital technologies; lack of integration of digital technologies into curricula in such a way that they contribute to the development of innovative thinking. It should be noted that excessive use of digital technologies can reduce the ability to reflect and analyze systems. Distance learning and constant interaction with technology can lead to a decrease in interpersonal communication and teamwork, productivity, and the development of critical and innovative thinking. Addressing these challenges requires a comprehensive approach, including improving digital literacy, modernizing educational programs in higher education institutions, ensuring equal access to technology, and developing ethical and social skills in the digital environment.

We believe that the digitalization of higher education should begin with the creation of basic information services used in the educational process; digital libraries that provide access to scientific literature for students or teachers from any device, regardless of location and time of day; stimulating the creation of new digital communities and innovations at all stages of education (Tsiuniak, O.P., Dovbenko, S.Iu., Verbeshchuk, S.V., 2024, 644-657).

Participants in the educational process must be up-to-date with modern technologies, be able to use the latest digital tools, create a digital environment, and be able to protect personal information in the digital space.

Digital technologies are a tool that is actively used in education and contributes to improving its quality and developing innovative thinking in future professionals, as well as provides an opportunity not only to gain knowledge but also to develop practical skills, actively participate in the process of creating, analyzing and using digital resources.

The essence of the concept of «innovative thinking» is interpreted differently in the scientific literature. In the study of R. Pavlovich, innovative thinking is considered as thinking that is able to penetrate the essence of things and phenomena (Pavlovych, O. R., 2019, 199-212). This approach allows higher education students not only to analyze the available information, but also to form their own ideas that contribute to the search for new, extraordinary solutions to professionally important tasks. Thanks to this, students develop creativity, flexibility in thinking and the ability to adapt to difficult situations.

According to K. Gorasz, innovative thinking is an active way of perception,

comprehension and evaluation of objects, based on personal understanding and assessment of the external world; it is associated with the need to make non-standard decisions in non-standard situations and ensures the development and mastering of new models of interaction between subjects (Komar, T.V., Varhata, O.V., 2022, 333-344).

Researcher S. Soboleva identifies the main characteristics of innovative thinking, including

- expansion of the function of thinking: the ability to fantasize and generate non-standard ideas;
- identification of the key problem, the ability to see it in relation to other elements;
- rejection of stereotypes and patterns, going beyond traditional concepts;
- resolution of contradictions, ability to effectively resolve conflicts;
- understanding of systemic processes to predict their future development.
- Integration of knowledge from different areas and industries to create new solutions;
- optimization of resources, search for the best means to implement new ideas;
- practical focus, orientation towards achieving specific results;
- search for alternative ways to realize ideas (Sobolieva, S. M., 2020, 271-275).

Thus, thanks to the ability to generate new ideas, analyze systems and predict their development, move away from stereotypes and use an integrative approach to solving a problem, higher education students can find effective ways to solve complex professional problems, new opportunities for implementing ideas in real life.

Having carried out a theoretical analysis of modern scientific works, we can distinguish the following personal qualities of higher education students related to the development of innovative thinking: generation of new non-standard ideas; rejection of stereotypes and templates; desire to learn new things; ability to use the experience of others and the desire to improve one's own; ability to analyze, synthesize and generalize; originality of views and flexibility of thinking; ability to creatively solve professional problems; focus on gaining practical experience; search for different ways of implementation.

For a thorough analysis of this problem, we developed our own questionnaire «The Impact of Digitalization on the Development of Innovative Thinking of Higher Education Students». The questionnaire included open-ended questions: How often do you use digital technologies in the educational process? Which digital technologies do you use most often? Do you feel that digital technologies help you to better master the educational material? What aspects of thinking do you think are most developed through digital technologies? How would you rate the impact of digital technologies on the development of your innovative thinking on a scale from 1 to 5 (where 1 is not different, 5 is significantly different)? What difficulties do you face when using digital technologies in education? In your opinion, are there enough digital technologies in your higher education institution to develop innovative thinking? What digital tools do you consider the most effective for the development of innovative thinking?

According to the survey, we found that 65% of respondents actively use digital technologies; 25% of respondents use them several times a week, and 10% use them less often.

Higher education students provide a list of digital technologies that they most often use in their studies. It is shown in Figure 1.

According to 85% of respondents, digital technologies help to better master the educational material, 10% of respondents say that they help partially, 5% of respondents do not help. 60% of respondents believe that the use of digital technologies helps to develop creativity, 30% of respondents believe that it helps to develop critical thinking, and 10% of respondents do not know. 50% of respondents believe that digital technologies have a significant impact on the development of innovative thinking, 30% of respondents are convinced that digital technologies have an average impact on the development of innovative thinking, and 20% of respondents believe that they have a minor impact.

Students identify certain difficulties that arise when using digital technologies in education. Let's visualize it in Fig. 2.

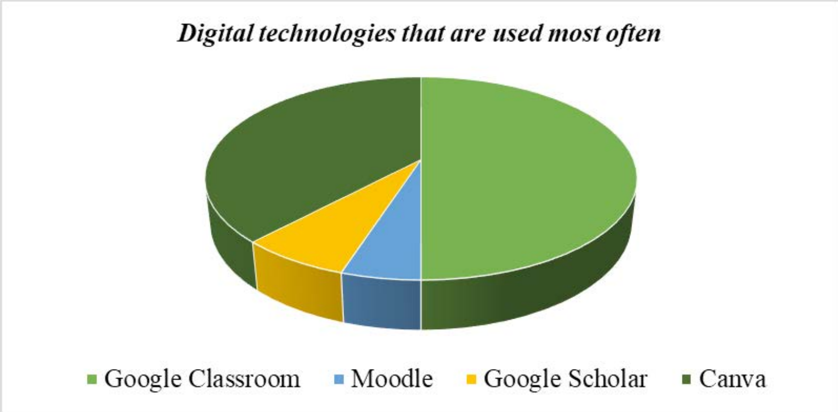

Fig. 1 . Digital technologies used most often

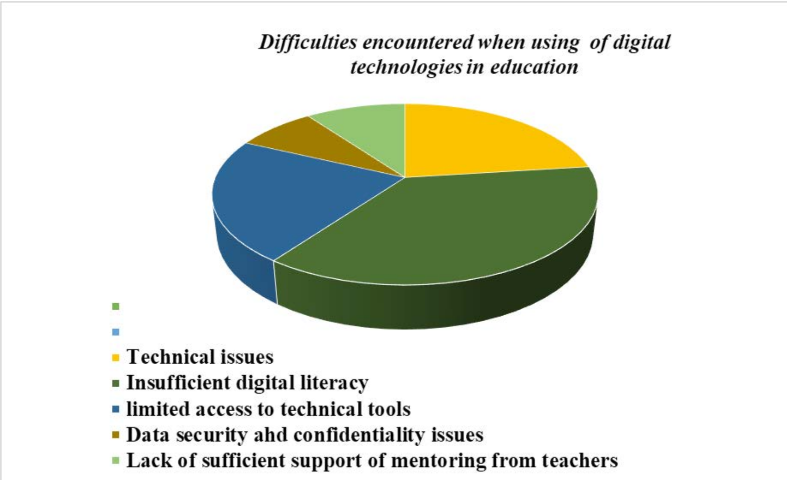

Fig. 2. Difficulties encountered when using of digital technologies in education

When asked whether digital technologies are sufficient in your higher education institution to develop innovative thinking, 60% of respondents said that they are sufficient, 30% of respondents - partially, and 10% of respondents - insufficient.

The most effective digital tools for the development of innovative thinking, according to higher education students, are knowledge sharing programs (Google Workspace, Microsoft Teams) (45% of respondents), virtual laboratories (20% of respondents), and educational platforms (35% of respondents).

Thus, the study demonstrates a high level of use of digital technologies among higher education students. Educational platforms, online libraries, and knowledge sharing programs have the greatest impact on the learning process. However, technical problems and insufficient skills in working with digital resources remain the main challenges. At the same time, students note the positive impact of technology on the development of critical, analytical, and innovative thinking, which contributes to their professional growth.

We believe that the innovative thinking of higher education students is effectively developed in the process of their education in the modern information space. Therefore, it is necessary to provide access to information resources, including the use of electronic libraries, online learning platforms and databases that promote the development of independent search and analysis of information. It is advisable to develop critical thinking skills, as students should learn to evaluate information from various sources, form their own opinions and retain innovative solutions. It is also worth using interactive teaching methods: project work, discussions in online environments, which will help stimulate creative and innovative thinking, engage in practical tasks and participate in research.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, from the above, we can conclude that digitalization is an important factor in the development of innovative thinking of higher education students. We believe that digital technologies are a powerful tool for organizing the educational process in the context of the informatization of society and the digital transformation of education.

They increase the effectiveness of independent work of higher education students and make it possible to introduce innovative forms and methods of teaching and education in future professional activities. Digital technologies facilitate the assimilation of educational material and promote cooperation, self-realization and professional development of future specialists. In addition, they ensure active and conscious learning, increase motivation, develop communication skills, and form professional competencies. Mastery of digital technologies allows future professionals to be prepared for the challenges of modern society and to promote the development of innovative thinking, creativity and other important skills in their students.

Digital education in Ukraine is a key factor in ensuring the country's sustainable development and the formation of a digital society. To move to a qualitatively new level of digital education, it is necessary to consolidate the efforts of the government, educational institutions, and the public.

We see prospects for further research in the creation of instructional and methodological materials for teachers of higher education institutions that promote the effective use of digital resources to develop innovative thinking, professional competencies, cooperation skills, teamwork, and digital literacy.

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ОРГАНІЗАЦІЯ ДІАГНОСТУВАЛЬНОГО ЕТАПУ ЕКСПЕРИМЕНТАЛЬНОЇ ПЕРЕВІРКИ ЕФЕКТИВНОСТІ МЕТОДИЧНОЇ СИСТЕМИ НАВЧАННЯ УКРАЇНСЬКОЇ МОВИ ЗА ПРОФЕСІЙНИМ СПРЯМУВАННЯМ

Анотація. Стаття присвячена опису діагностувального етапу експериментальної перевірки ефективності методичної системи навчання української мови за професійним спрямуванням. Виконання поставлених завдань відбувалося у контексті викладання навчальної дисципліни студентам спеціальностей 012 «Дошкільна освіта» і 013 «Початкова освіта». Матеріали, наведені в публікації, становлять частину експериментального дослідження, відображеного в докторській дисертації авторки «Методична система навчання студентів української мови за професійним спрямуванням у педагогічних закладах вищої освіти».

Перебіг дослідження зумовив використання системно-структурного та описового методів для розкриття загальних організаційних аспектів реалізації діагностувального етапу експерименту. Теоретичні методи аналізу, синтезу, узагальнення і конкретизування застосовано для обґрунтування структури й особливостей оцінювання тестових завдань для рівневої характеристики за когнітивно-мотиваційним критерієм, а також для визначення основних недоліків у роботах студентів. Метод тестування забезпечив здобуття кількісних показників. Для рівневого розподілу та кількісного аналізу результатів використано математичні методи. Візуальні методи застосовано в процесі відображення результатів вимірювання у табличній формі.

У контексті виконання завдань дослідження сформульовано мету й завдання діагностувального етапу експериментального дослідження ефективності методичної системи навчання української мови за професійним спрямуванням. Обґрунтовано вибір критеріїв оцінки визначених компетентностей, описано заходи, вжиті для забезпечення достовірності результатів дослідження.

У процесі змістового аналізу результатів тесту в роботах студентів виокремлено основні недоліки теоретичного плану, а також лінгво-когнітивної підготовки майбутніх фахівців. Враховуючи форму та умови проведення тестування авторка висловила припущення про відсутність або низький рівень мотивації здобувачів освіти до мовно-професійного вдосконалення, що потребує додаткової перевірки.

Ключові слова: дискурсивна компетентність, діагностувальний етап, документознавча компетентність, загальнонаукова компетентність, інформаційно-технологічна компетентність, когнітивно-мотиваційний критерій, компетентнісна парадигма, констатувальний зріз, методична система, мовна освіта, педагогічний експеримент, підприємницька компетентність, редакторська компетентність, термінологічна компетентність, тест, українська мова за професійним спрямуванням.

ORGANIZING THE DIAGNOSTIC STAGE TO EXPERIMENTALLY TEST THE EFFECTIVENESS OF THE METHODICAL SYSTEM OF TEACHING UKRAINIAN LANGUAGE FOR PROFESSIONAL PURPOSES

Abstract. The article describes the diagnostic stage of experimentally verifying the effectiveness of the methodical system of teaching Ukrainian Language for Professional Purposes. The tasks were completed in the context of teaching the discipline to students of specialties 012 Preschool Education and 013 Primary Education. The materials presented in this publication are part of the experimental research reflected in the author's doctoral dissertation Methodical System of Teaching Ukrainian Language for Professional Purposes to Students at Pedagogical Institutions of Higher Education.

The course of the study has led to the use of the systemic, structural, and descriptive methods to reveal the general organizational aspects of implementation of the experiment's diagnostic stage. The theoretical methods of analysis, synthesis, generalization, and specification were used to substantiate the structure and features of the assessment of test tasks for level characterization by the cognitive and motivational criterion, as well as to identify the main shortcomings in students' works. The testing method provided quantitative indicators. Mathematical methods were used for level distribution and quantitative analysis of the results. Visual methods were used in the process of displaying the measurement results in the tabular form.

In the context of fulfilling the objectives of the study, the aim and tasks of the diagnostic stage of the experimental research into the effectiveness of the methodical system of teaching Ukrainian Language for Professional Purposes have been formulated. The choice of criteria for assessing the identified competencies has been substantiated, and the measures taken to ensure the reliability of the research results have been described.

In the course of the content analysis of the test results, the main shortcomings of the theoretical plan and the linguistic and cognitive training of future specialists were identified in the students' works. Taking into account the form and conditions of the test, the author suggests that there is no or a low level of motivation of students for linguistic and professional improvement, which requires additional verification.

Keywords: discursive competence, diagnostic stage, documentary competence, general scientific competence, information technology competence, cognitive and motivational criterion, competence paradigm, ascertaining evaluation, methodical system, language education, pedagogical experiment, entrepreneurial competence, editorial competence, terminological competence, test, Ukrainian Language for Professional Purposes.

INTRODUCTION

The problem formulation. The Ukrainian language is the main feature of the national identity of Ukrainians. In the context of the centuries-long struggle for Ukraine's independence and sovereignty, language education has always helped to consolidate society around common values, history, and culture. The spread of the Ukrainian language through the education system contributes to the strengthening of statehood, which is especially important in today's realities. Under the conditions of hybrid warfare, language education has become a tool to counteract information manipulation. Knowledge of the Ukrainian language allows citizens to consume information from reliable sources, avoiding disinformation and propaganda, which are often spread in illiterate Ukrainian or other languages.

Since the only discipline aimed at improving Ukrainian language competencies in the educational programs of higher education institutions for the training of specialists in the vast majority of specialties is Ukrainian Language for Professional Purposes, the problem of improving the methodical system of teaching this educational component is becoming more relevant. The research was conducted in the system of training future specialists in the field of education, in particular, specialties 012 Preschool Education and 013 Primary Education, and was completed in 2023.

Analysis of recent research and publications. In view of the growing need for competent language and professional training of future teachers, specifically preschool and primary school teachers who are native speakers of exemplary Ukrainian for children of preschool and primary school age, this issue is increasingly becoming the subject of research by Ukrainian scholars.

The analysis of the scientific information space has shown that over the past 5 years (2020-2024), attention has increased to the methodology of teaching Ukrainian Language for Professional Purposes in terms of forming the information, digital, and media competence of students (O. Baranovskyi, L. Byvalkevych, O. Bezliudnyi, O. Isakova, L. Yeremenko, O. Zimonova, M. Korzh, S. Kravchuk, Z. Shumeiko, et al.). The problem of forming the communicative competence of students of different specialties during the study of Ukrainian Language for Professional Purposes remains in the spotlight of pedagogical research (O. Antonchuk, T. Boichuk, S. Hrytsyshyn, K. Kozub, N. Kolesnyk, O. Medvedieva, I. Nahrybelna), as well as the improvement of the culture of students' professional speech (Yu. Buhayevska, V. Budianska, I. Holubovska, L. Shlieina) and their rhetorical skills (O. Hordiienko, L. Hromyk, N. Didenko, M. Kovalyk, I. Tymchuk, V. Yukalo), etc.

At the same time, we can observe the emergence of scientific works focused on the peculiarities of distance learning of Ukrainian Language for Professional Purposes (I. Babii, O. Hevko, N. Holiardyk, N. Didenko, I. Zhytar, V. Kotsar, L. Suheiko, A. Yaremko), interdisciplinary integration (I. Humeniuk, S. Karpenko, T. Kravchenko), teaching chat etiquette, culture of online communication (S. Pohorila, Y. Rudenko, I. Tymchuk), development of meta skills and soft skills (O. Maksymets, O. Pidlisetska, S. Pohorila, V. Samoilenko, I. Tymchuk, T. Shulichenko), formation of students' national consciousness (V. Kurylo, T. Leshchenko), use of non-formal education platforms to improve the quality of learning Ukrainian Language for Professional Purposes (H. Kozachenko). As we can see, the latest topics of scientific research in the context of methods of teaching Ukrainian Language for Professional Purposes are driven by the socio-political situation in Ukraine, the formal conditions of the educational system and profound changes in the minds of Ukrainians, for whom the importance of the Ukrainian language has become obvious not only for successful professional self-realization, but also for preserving national identity.

The research work carried out to reveal the problem of forming an effective methodical system for teaching Ukrainian Language for Professional Purposes has shown that thorough research in this area has not yet been implemented not only for future specialists in the pedagogical field, but also in any other (Humeniuk, 2021). Accordingly, no pedagogical experiments have been implemented that are in line with the topic of the article. In this context, we consider it necessary to highlight the peculiarities of organizing the diagnostic stage of the pedagogical experiment reflected in the author's doctoral dissertation Methodical System of Teaching Ukrainian Language for Professional Purposes to Students at Pedagogical Institutions of Higher Education.

RESEARCH AIM AND TASKS

The diagnostic stage is critical for ensuring the scientific validity and objectivity of the results of a pedagogical experiment. It creates a basis for accurate measurement of changes caused by pedagogical influence and allows to draw reliable conclusions about the effectiveness of the proposed methods and approaches. With this in mind, the purpose of the study is to reveal the algorithm for conducting the diagnostic stage of the pedagogical experiment with a detailed analysis of the measurement process according to the cognitive and motivational criterion.

To achieve this aim, a number of specific tasks have been identified:

1) revealing the general organizational aspects of implementing the diagnostic stage of the experiment;

2) substantiating the structure and specifics of evaluating test tasks for level characterization by the cognitive and motivational criterion;

3) performing a level distribution and quantitative analysis of the test results with an emphasis on the main shortcomings.

RESEARCH METHODS

The course of the study has led to the use of the systemic, structural, and descriptive methods to reveal the general organizational aspects of implementation of the experiment's diagnostic stage. The theoretical methods of analysis, synthesis, generalization, and specification were used to substantiate the structure and features of the assessment of test tasks for level characterization by the cognitive and motivational criterion, as well as to identify the main shortcomings in students' works. The testing method provided quantitative indicators. Mathematical methods were used for level distribution and quantitative analysis of the results. Visual methods were used in the process of displaying the measurement results in the tabular form.

RESULTS OF THE RESEARCH

The purpose of the diagnostic stage of the experimental research into the methodical system of teaching Ukrainian Language for Professional Purposes was to establish the initial level of future teachers' general ability to perform professional activities by measuring the state of formation of competencies defined in the competence paradigm of the discipline Ukrainian Language for Professional Purposes (Humeniuk, 2019).

The aim necessitated solving the following tasks:

- development of criteria and indicators of formation covering all measurable competencies;
- creating a set of exercises and tasks for diagnosing the formation of discursive, documentary, general scientific, information technology, entrepreneurial, editorial, and terminological competencies;
- measuring the current state of development of certain competencies and ranking the results by level;
- identifying the initial level of ability of future specialists in pedagogy to solve complex specialized tasks and practical problems in professional and pedagogical activities according to the developed criteria;
- defining the factors that impede the effective formation of students' competencies in the process of teaching Ukrainian Language for Professional Purposes.

Based on the analysis of modern scientific works in the field of pedagogical diagnostics (Honcharenko & Horbachuk, 2012; Pidlasyi, 1998; Sliusar, 2014), the criteria and indicators have been developed, the levels have been characterized, and the strategy for organizing research activities, as well as forms and methods of diagnostics that meet the purpose of the diagnostic stage of the experimental study, have been selected.

The choice of criteria for assessing the formation of certain competencies (cognitive and motivational, operational and activity-based, professional and creative), their indicators and levels is justified in the author's previous publications. «The cognitive and motivational criterion is singled out to illustrate the formation of the knowledge-oriented, professional and motivational components of students' training, which cover the system of interdisciplinary content connections in the theoretical block of the discipline Ukrainian Language for Professional Purposes, as well as a comprehensive vision of the possibilities and necessary options for applying the acquired knowledge in the practical activities of a teacher and in the motivated work to improve skills, abilities, and eliminate shortcomings» (Humeniuk, 2014)

The ascertaining evaluation was conducted in the conditions of the real educational process at the beginning of the study of Ukrainian Language for Professional Purposes in the 2020/2021 academic year. The reliability of the research results at this stage is ensured by establishing the minimum required size of the sample population of the experiment participants, the number of students in the control (CG) and experimental groups (EG), compliance with certain pedagogical conditions in each group, the representativeness of the sample, which is formed taking into account the field of knowledge and specialty in terms of quantitative ratio, and its randomness.

From the established general population, a sample was formed for the ascertaining evaluation, which included 480 students from various Ukrainian higher education institutions. This figure exceeds the statistically proven minimum required number to ensure the accuracy and representativeness of the study results (Humeniuk I. & Humeniuk M., 2024). The experimental group included 238 students, the control group - 242 students.

In accordance with each criterion, a set of tasks has been developed to determine the levels of formation of the necessary competencies of students at the beginning of learning Ukrainian Language for Professional Purposes: test tasks for level characterization by the cognitive and motivational criterion, a system of exercises for assessing the levels of competencies by the operational and activity-based criterion, a set of tasks in Ukrainian Language for Professional Purposes for diagnostics by the professional and creative criterion. To find out the motivational and value position of students regarding the role of oral and written professional speech in the professional development of a future teacher, the methods of diagnosing a personality for motivation to professional and communicative improvement were selected.

Test tasks for level characterization by the cognitive and motivational criterion belong to the closed-ended type of tests and are designed on the principle of balancing complexity: 25 % of the tests are of low difficulty, 25 % are of high difficulty, and 50 % are of medium difficulty. Each test task has only one correct answer, which is assigned according to the following criteria: correctness in terms of content, accuracy of wording, and completeness of disclosure. To diagnose the formation of all the competencies identified in the study, the test was structured as follows: 8 tests to diagnose the levels of formation of each competence, including 4 tests of medium difficulty, 2 of low, and 2 of high difficulty. Evaluation: correct answer - 1 point; the calculation was carried out according to a dichotomous scheme; the percentage of levels is shown in Table 1.

Table 1

Evaluating a Test for Level Characterization by the Cognitive and Motivational Criterion

Levels	Points	Scores in %
Sufficient	From 42 to 56	75% – 100%
Satisfactory	From 15 to 41	26% – 74%
Initial	From 0 to 14	0% – 25%

***Source**: developed by the author according to (Kartashova & Prokhorenkov, 2013).*

As can be seen from Table 1, the test performance at the initial level is quantitatively (in %) ensured by tests of low difficulty, at the sufficient and satisfactory levels, respectively. The test was approbated ($n = 62$), and retest reliability was checked (Test-Retest Reliability method) with an interval of 3 academic weeks. Repeated use of the same test for the same audience under the same conditions yielded a result of $p > 0.06$, which confirms the absence of significant differences and meets the basic requirement of retest reliability (E. Carmines & R. Zeller, 1979, 11-120). The validity of the assessment results is ensured by the adequacy of the content of the test tasks to the purpose of testing, the coverage of the entire content of the discipline Ukrainian Language for Professional Purposes by the tests, the correctness of the wording and the absence of hints in the answers, the ratio of tasks of different difficulty levels, the presence of clear instructions, and the avoidance of subjectivity in the assessment through the use of modern information and communication technology.

The quantitative analysis of the test results of the EG and CG students has permitted the author to make a level distribution according to the cognitive and motivational criterion, visualized in Table 2.

Table 2

Level Distribution of Test Results at the Diagnostic Stage (Cognitive and Motivational Criterion)

Groups	Levels					
	Sufficient		Satisfactory		Initial	
	persons	%	persons	%	persons	%
EG	51	21,4	103	43,3	84	35,3
CG	54	22,3	110	45,5	78	32,2

Source: compiled by the author based on test results.

As can be seen from Table 2, the results of testing according to the cognitive and motivational criterion showed the prevalence of a satisfactory level in both EG and CG (43.3 % and 45.5 %, respectively), while the indicators of the initial level are considered high (35.3 % - EG, 32.2 % - CG). A small number of respondents reached the sufficient level: 21.4 % - in the EG, 22.3 % - in the CG. This manifested itself in the shortcomings of the theoretical plan: a lack of general linguistic knowledge (features of the literary language, understanding the functions of language and speech), basics of document management (writing an application, autobiography, explanatory note, arranging essential elements), some aspects of scientific activity (bibliographic description, types of scientific papers), knowledge of terminology (types of terms, ways of creating them), technical rules of hyphenation, linguistic and technological features of the printed text, basics of editing.

While the aforementioned shortcomings were predictable and can be explained by the lack of appropriate training in general secondary education institutions, other aspects of the test are worrisome because they relate to the linguistic and cognitive training of future specialists, their ability to perform logical thinking operations. In particular, the respondents had considerable difficulty with the tasks on applying logic in the construction of statements and types of cognitive activity (determining the cause of a communicative failure, analyzing the text to determine the main idea, formulating the purpose of the work on a given topic, determining the type of errors in the text, etc.).

The students showed an initial level of development of skills in stylistic selection of language means, transfer of theoretical provisions to the practical plane, which caused a significant number of spelling, grammar, and punctuation errors. Accordingly, we observe poorly developed skills in editing Ukrainian-language texts.

Taking into account the form of testing (using the Google Forms service) and the possibility of using auxiliary materials during the tests, we assume the absence or low level of motivation for linguistic and professional improvement, lack of awareness of the dependence of professional success on the mastery of linguistic and pragmatic aspects of speech among the respondents with the initial and satisfactory levels according to the cognitive and motivational criterion.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Language education in Ukraine is a strategically important factor in building a sustainable, cohesive, and democratic society. It performs not only an educational, but also a socio-political function, strengthening national identity and contributing to the cultural and economic development of the country. The successful implementation of language policy through education is a key condition for further strengthening Ukraine's independence and sovereignty. Therefore, it is necessary to intensify the work on improving the methodical systems of teaching the Ukrainian language to students of different levels, including future professionals in the field of education.

Methodical innovations require experimental verification in accordance with the algorithm of the pedagogical experiment, an essential part of which is the diagnostic stage. The conducted diagnostics of the levels of students' competencies studied according to the cognitive and motivational criterion made it possible to determine the state of formation of the knowledge (general theoretical, linguistic and cognitive) component of students' training in the content of the discipline Ukrainian Language for Professional Purposes, as well as to naturally assume a low level of the professional and motivational component. Our further scientific publications will be devoted to verifying this assumption.

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ФОРМУВАННЯ ЦИФРОВОЇ КОМПЕТЕНТНОСТІ В МАЙБУТНІХ ФАХІВЦІВ

Анотація. У статті розглядається актуальні питання формування цифрової компетентності у майбутніх гірничих інженерів в умовах цифровізації гірничої промисловості. Проаналізовано поняття, структуру та специфіку цифрової компетентності, а також сучасні технологічні тренди в галузі, серед яких - роботизація, штучний інтелект, Інтернет речей та цифрові двійники.

Особлива увага приділяється методології формування цифрових навичок через інтеграцію сучасних технологій у навчальний процес, співпрацю з виробничими підприємствами та безперервне професійне навчання. Запропоновано практичні рекомендації щодо вдосконалення освітніх програм, створення партнерств між університетами та компаніями, а також впровадження сучасної матеріально-технічної бази.

Обгрунтовано важливість комплексного підходу до підготовки фахівців, здатних працювати в умовах високотехнологічного виробництва.

Ключові слова: цифрова компетентність, гірничі інженери, освітні програми, професійна підготовка, професійний розвиток, технологічні тренди, майбутні фахівці.

FORMATION OF DIGITAL COMPETENCE IN FUTURE SPECIALISTS

Abstract. The The article deals with topical questions of forming digital competence in future mining engineers in the context of digitalization of the mining industry. The concept, structure and specifics of digital competence, as well as modern technological trends in the industry, including robotization, artificial intelligence, the Internet of Things and digital twins, are analyzed.

Particular attention is paid to the methodology of forming digital skills through the integration of modern technologies into the educational process, cooperation with manufacturing enterprises and continuous professional training. Practical recommendations for improving educational programs, establishing partnerships between universities and companies, and introducing modern material and technical facilities are proposed.

The importance of an integrated approach to training specialists capable of working in high-tech production is substantiated.

Keywords: digital competence, mining engineers, educational programs, professional training, professional development, technological trends, future specialists.

INTRODUCTION

The problem formulation. In today's world, digital transformation affects all industries, and the mining sector is no exception. The development of digital competence in future mining engineers is becoming an actual task of their professional training.

Analysis of recent research and publications. The issue of digital competence in the professional training of engineers was studied by S. Dimitrova, N. Girya, V. Burlayenko, O.Tryfonova,Y.Bordiian, V.Matsko, L.Cherednyk. The problems of professional training of specialists in the mining industry were studied by O. Gerasymchuk; S. Gryshchenko, V. Morkun, S. Semerikov, O. Derevyanko, V. Ternopilska, T. Medvedovska, O. Rusanova, T. Shargun and others. The role of digital technologies in the training of future engineers was studied by V. Tkachuk, Y. Yechkalo, S. Khotskina, O. Markova, and V. Khotskina. The article describes «that the digitalization of all spheres of human activity has led to a significant increase in the requirements for the training of modern engineers». (Tkachuk 2023) According to the authors, virtual reality and augmented reality are the safest and most effective way to solve this problem. Let's consider the features of using these technologies, as well as examples of successful implementation of immersive technologies in the educational process.

THE AIM AND RESEARCH TASKS – to carry out a comprehensive analysis of the specifics of forming the digital competence of future mining engineers in the process of their professional training.

RESEARCH METHODS: method of analysis and synthesis, systematic, method of generalization.

RESULTS OF THE RESEARCH

The modern mining industry is on the verge of a global technological revolution that is fundamentally changing the traditional understanding of production processes. The Fourth Industrial Revolution, known as Industry 4.0, is introducing fundamentally new approaches to the management, production and development of the industry. The main driver of these changes is digitalization, which covers all aspects of mining production.

The following digital tools are used in the mining industry today:

GEOVIA Surpac - the world's most popular software for geology and mining planning in open pits and underground wells, as well as for supporting exploration projects. It guarantees efficiency and accuracy through ease of use, powerful 3D graphics and workflow automation;

AutoCAD is a 2D and 3D computer-aided design system.

Micromine is an all-in-one solution for the mining industry that covers the entire cycle: from geological exploration and 3D modeling to mining management control, planning, and data management.

Today, traditional mechanical systems are giving way to intelligent systems, where artificial intelligence, machine learning, and automation systems are becoming not just supporting tools but full-fledged participants in the production process.

The industry's technological upgrade is moving in new directions, which must be taken into account in the professional training of future engineers. For example, thanks to robotization and automation of production processes, modern mining companies are introducing autonomous transportation systems where magnitude trucks and drilling rigs operate without direct human intervention. Such automated systems improve production efficiency by 20-30%.

Modern engineers use artificial intelligence as a tool for predicting and optimizing. Neural networks are able to analyze huge amounts of geological data, predict potential risks, and optimize production routes. Machine learning makes it possible to create systems that diagnose equipment in advance, which significantly reduces the risk of emergencies and minimizes unplanned downtime.

The Internet of Things (IoT) is transforming production sites into highly intelligent ecosystems. Sensor networks provide real-time monitoring of equipment, control the parameters of the production environment, and allow for instant response to the slightest deviation. This is not just a control technology, but a full-fledged production risk management system.

A special place is occupied by digital twins - virtual copies of physical objects and processes. With the help of sophisticated computer models, mining engineers can simulate various production scenarios, test new approaches and optimization solutions long before they are actually implemented.

Leading global companies predict that the main economic effect of digitalization will be a 10-30% reduction in production costs, increased equipment productivity, and improved production safety.

According to M. Stupnyk, V. Morkun, Z. Bakum, and V. Tkachuk, «improving the efficiency of mining enterprises in a market economy, increasing production and financial performance requires the development, mastering, and implementation of modern information technologies» and «accordingly, informatization of the process of training a future mining engineer is an urgent task today» (Stupnyk et al., 2016, p. 40). After all, the technological transformation of the industry leads to the dominance of automated production complexes, integrated systems with artificial intelligence, and augmented reality technologies. Such technological innovations put forward requirements for the mandatory formation of digital competence in mining students in the process of their professional training.

One of the broadest interpretations of the definition of «digital competence» was proposed by A. Ferrari, who believes that it is «a set of knowledge, skills, attitudes (including abilities, strategies, values and awareness) required to use information and communication technologies and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and construct knowledge effectively, efficiently, appropriately, critically, creatively, independently, flexibly, ethically, reflectively for work, leisure, collaboration, learning, socizlizing, consuming, and empowerment» (Ferrari, 2011)

We consider digital competence in a narrower sense as an integral characteristic that includes the ability of a person to confidently, critically and safely use information and communication technologies for work, study, professional and personal development.

For mining engineers, digital competence has specific features. It consists of the following: a deep understanding of digital mining technologies; skills in working with specialised software; and the ability to digitally model and analyse production processes.

Obviously, higher education institutions that train engineers need to adapt their curricula to the requirements of the labour market by introducing courses in digital technologies, programming, and working with industry-specific applications.

The use of virtual simulators, 3D modelling and modernly equipped laboratories is effective in developing students' practical skills. For example, simulating the operation of a mine in a digital environment helps to understand how hardware and software interact.

Practical training can be supplemented with internships at enterprises, where students can work with software and equipment used in the industry.

In general, the formation of an effective digital competence system for mining engineers is a complex, multifaceted process that requires an integrated approach and interaction between educational institutions, manufacturing enterprises and government institutions.

We see the development of digital competence of mining engineers as a strategic direction:

- transformation of educational programmes, updating their content to meet modern technological challenges based on the following principles: integration of practical digital modules into basic disciplines; introduction of interdisciplinary courses; development of flexible educational paths; active use of simulators and virtual trainers;
- partnership with technology companies, as the effectiveness of digital competence formation directly depends on close cooperation between HEIs and leading technology companies and manufacturing enterprises based on the following mechanisms: application of elements of dual education; involvement of leading experts in teaching activities; joint research projects;
- technological support, as the effective formation of digital competence is impossible without a modern material and technical base, which needs to be filled with modern computer equipment, specialised software, equipment for virtual and augmented reality; high-speed Internet access available to students.

Since digital competence is dynamic and requires constant updating, it is necessary to create a flexible system of professional development and retraining. It may consist of various forms of training, such as short-term intensive courses, online training programmes; corporate digital skills academies; international certification programmes, coaching and mentoring programmes. At the same time, it should be noted that the specifics of the industry require special improvement of the digital competence of mining engineers. Therefore, technical higher education institutions should take on the mission of continuous digital education.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

So, the formation of digital competence in future mining engineers is a complex process that requires the integration of theoretical knowledge, practical skills and modern technologies in education. Educational institutions should become a platform for training specialists ready for the challenges of the digital age. Recommendations include updating curricula, engaging industry practitioners in teaching, and expanding access to digital tools. This is the only way we can prepare mining engineers who will meet the requirements of the times and contribute to the development of the industry.

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ПСИХОЛОГО-ПЕДАГОГІЧНЕ ЗАБЕЗПЕЧЕННЯ УМОВ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ ПРИРОДНИЧИХ ДИСЦИПЛІН ДО ЗДОРОВ'ЯЗБЕРЕЖУВАЛЬНОЇ ДІЯЛЬНОСТІ

Анотація. На основі здійсненого контент-аналізу наукових джерел, вивчення передового педагогічного досвіду вчителів, у статті описано психолого-педагогічні умови підготовки майбутніх учителів природничих дисциплін до здоров'язбережувальної діяльності у закладах загальної середньої освіти. Автор наголошує на пріоритетність здоров'я, здорового спробу життя та здоров'язбереження, який визначається за результатами організованого цілеспрямованого педагогічного впливу й співпраці усіх суб'єктів освітньої взаємодії. Вказується, що за вказаних реалій якісна здоров'язбережувальна освіта виступає необхідною умовою підготовки майбутніх фахівців у галузі природничої освіти, вчителя, який здатний зберегти психічне й фізичне здоров'я здобувачів освіти у процесі навчання в складних умовах воєнної доби.

Обґрунтовано необхідність цілеспрямованої підготовки майбутніх учителів до організації освітнього процесу на засадах здоров'язбереження, дотримання традицій та цінностей здорового способу життя. У статті використано методи наукового аналізу й синтезу з метою вивчення досвіду діяльності ЗЗСО щодо організації здоров'язбережувальної діяльності педагогів, контент-аналіз сприяв опрацюванню великих масивів наукової літератури для узагальнення підходів до визначення психолого-педагогічних умов підготовки майбутніх педагогів до здоров'язбережувальної діяльності роботи із здобувачами шкільної освіти. Визначено психолого-педагогічні умови діяльності педагогів та основні структурні компоненти. Автор наголошує, що готовність майбутніх учителів природничих дисциплін до здійснення здоров'язбережувальної діяльності виступає важливою соціально-педагогічною проблемою, вирішення якої охоплює актуальні питання як окремої спільноти, так і суспільства загалом. Адже в сучасних умовах особливого значення надають укріпленню й збереженню здоров'я здобувачів шкільної освіти та розширення їх орієнтації на те, щоб проводити здоровий спосіб життя.

Ключові слова: готовність, підготовка, психолого-педагогічні умови, здоров'я, дисципліни природничого циклу, майбутні вчителі природничих дисциплін.

PSYCHOLOGICAL AND PEDAGOGICAL SUPPORT FOR THE CONDITIONS OF TRAINING FUTURE NATURAL SCIENCE TEACHERS FOR HEALTH-SAVING ACTIVITIES

Abstract. Based on the content analysis of scientific sources, the study of advanced pedagogical experience of natural sciences teachers, the article describes the main psychological and pedagogical conditions for training future natural science teachers for health-saving activities in general secondary education institutions. The author emphasizes the priority of health, healthy lifestyle and health saving, which is determined by the results of organized purposeful pedagogical influence and interaction of all subjects of educational interaction. It is indicated that in these realities, high-quality healthkeeping education is a prerequisite for the training of future specialists in the field of natural science education, a teacher who is able to preserve the mental and physical health of schoolchildren in the process of learning in rather difficult conditions of wartime.

The necessity of preparing future teachers to organize the educational process on the basis of health saving, observance of traditions and values of a healthy lifestyle is substantiated. The article uses the methods of scientific analysis and synthesis to study the experience of general secondary education institutions (GSEI) in organizing health-saving activities of teachers, content analysis contributed to the processing of large amounts of scientific literature in order to summarise approaches to determining the psychological and pedagogical conditions for preparing future teachers for health-saving activities with school students. The main structural components of the process of training future teachers to implement health keeping tasks are defined, the psychological and pedagogical conditions of this type of activity are outlined. The author emphasizes that the problem of future natural sciences teachers' readiness to carry out health-saving activities is an important socio-pedagogical problem, the solution of which covers topical issues of both the individual community and society as a whole. In today's environment, it is of particular importance to strengthen and save the health of school students and to expand their focus on leading a healthy lifestyle. After all, in modern conditions, particular importance is attached to strengthening and preserving the health of school students and expanding their orientation towards a healthy lifestyle.

Keywords: readiness, training, psychological and pedagogical conditions, health, disciplines of the natural cycle, future natural science teachers.

INTRODUCTION

The problem formulation. The general trend of humanization of science and society in the modern realities of wartime determines the priority of research related to the preservation of the health of a growing personality. The problem of health saving of school students in modern pedagogical theory and school practice occupies a leading place, which is determined by its relevance in the educational space.

One of its insufficiently researched aspects is the issue of training future natural science teachers during their studies in pedagogical higher education institutions to preserve and develop schoolchildren's health. After all, the priority of health, healthy lifestyle and health saving is determined by the results of organized purposeful pedagogical influence and interaction of all subjects of educational interaction.

The study is also relevant because the pedagogical activity of teachers of natural science subjects (teachers of geography, natural history, health basics, ecology, valeology, biology, integrated courses «Learning about Nature», «Natural Sciences», «Health, Safety and Wellbeing», etc.) differs from the activity of teachers of other subjects in its practical orientation and specifics of the organization of the educational process. These subjects become especially relevant in the context of martial law, which has a significant impact on the comprehensive development and education of students and the process of forming the mental health of a growing personality.

Analysis of recent research and publications. The importance of future teachers' understanding of the relevance of working on career growth and constant readiness for professional development and self-development is emphasised by domestic scholars O. Dubaseniuk (2011), E. Khrykov (2011), S. Litvinchuk (2002) and others. The organisation of work aimed at preserving the health of students in modern GSEI is studied by Y. Boichuk (2015), M. Honcharenko (2004), L. Khomych (1998), I. Shcherbak (2015) and others.

The theoretical and methodological bases of the problem of health of a growing personality, the formation of the foundations of a healthy lifestyle of school students, psychological and pedagogical conditions for the formation of future teachers' value attitude to health and health saving are becoming the field of research of such well-known Ukrainian scientists as N. Valko (2020), P.Dzhurynskyi (2012), N. Zhitennyova (2019), V. Onipko (2011), K. Osadchenko (2019) and others. At the same time, it should be emphasized that the importance of the issues we have outlined is determined by the rapid transformation of educational paradigms and the dynamics of social development aimed at optimizing the processes of future teachers' self-realization in their professional activities, meeting the modern needs of both society and individuals. At the same time, the emphasis is placed on diagnosing not only losses and damage to health, but also on preserving and strengthening the healthy life potential of a growing personality.

The issues of training pedagogical personnel to solve the problems of forming, strengthening and preserving the health of schoolchildren were implemented in the research of G. Meshko (2014), V. Orzhekhovska (2006), O. Savchenko (2012). Regional approaches to solving the problem of health-saving education have become the subject of research by scientists N. Bakhmat & M. Romanyak (2024), M. Yevtukh (2002), I. Chervinska (2013).

Thus, our review of the scientific literature shows a steady interest in the problem of forming, strengthening and preserving the health of participants in the educational process and optimizing the training of future teachers to organize life-saving activities for schoolchildren and their parents.

AIM AND TASKS OF THE RESEARCH

Based on the content analysis of scientific sources, studying the advanced pedagogical experience of natural science teachers, to highlight the main psychological and pedagogical conditions for preparing future natural science teachers for health-saving activities in general secondary education institutions.

RESEARCH METHODS: analysis and synthesis to study the experience of GSEI in organizing health keeping activities of teachers, content analysis of scientific literature to summarize approaches to determining the psychological and pedagogical conditions for preparing future teachers for health-saving activities with school students, methods of summarizing the results of the study.

RESULTS OF THE RESEARCH

Presentation of the main material. The new paradigm of health saving pedagogy shifts the focus of the problem from the formation of knowledge, skills and abilities to the holistic comprehensive development of a growing personality with the formation of appropriate health keeping competences. In such realities, the role of the socio-pedagogical component of preserving schoolchildren's health in the process of education is significantly increasing and leads to the search for new ways to train teachers who are professionally ready to implement the outlined tasks during academic and extracurricular activities.

The problem of training future natural science teachers is widely reflected in the psychological and pedagogical literature, in particular in the works of domestic scientists. For example, in the works of N. Khomych, S. Shcherbyna (Khomych,1998 & Shcherbyna, 2023) considerable attention is paid to the peculiarities of organizing the educational process, which is conditioned by the training of future natural science teachers. In this context, S. Shcherbyna states that «the transition of higher education to a new concept of training future specialists should provide for the provision of their fundamental scientific and practical training, raising the level of their professionalism, competence, and intellectual culture.

In the process of studying the natural sciences, higher education applicants should acquire fundamental natural science knowledge, understanding of the broad integration links between educational components and develop systemic thinking» (Shcherbyna, 2023).

In these realities, quality health-saving education is a prerequisite for the training of future specialists in the field of natural science education, a teacher who is able to preserve the mental and physical health of schoolchildren in the process of learning in rather difficult conditions of wartime.

In this context, we point out that there is a dependence between the level of health of school students and the level of teachers' readiness to address the problems of health preservation and promotion, which is determined by the requirements for the provision of educational services under martial law and the quality of professional training of future natural science teachers in health-saving education, the foundations of which are laid during their studies at higher education institutions (HEIs).

It is worth noting that the current state of training of future natural science teachers in most cases does not take into account the complex realities of martial law and the peculiarities of organizing the educational process and leisure time, the specifics of conducting lessons in a blended or distance format. Currently, there is no integrated system of effective professional training of teachers in health-saving education for school students in the context of hostilities. There are no effective psychological and pedagogical means of influencing a growing personality - a child or young person who lived or lives in the areas where hostilities are taking place, where sirens and alarms are heard. The above should be included in the content of the educational process aimed at forming the readiness of future teachers to organize health-saving education on the basis of health-saving pedagogy.

As noted by researchers I. Shorobura and O. Chubrei in their article «Professional Identity and Teacher's Skill» (2019), «the effectiveness of training future geography teachers for professional activity...is achieved through the creation of a set of appropriate psychological and pedagogical conditions» (Shorobura & Chubrei, 2019). Accordingly, the concept of «psychological and pedagogical conditions» means a set of internal and external circumstances that will contribute to the effectiveness of the comprehensive process of preparing future teachers for professional activity in general secondary and out-of-school education institutions.

Psychological and pedagogical research thoroughly analyses the conditions of professional training, reveals effective mechanisms of their creation and interaction in terms of influence on the comprehensive development of a future teacher and the formation of the personality of a school student. In our opinion, the interpretation of pedagogical conditions by researcher I. Filimonova is interesting, as she notes that «pedagogical conditions are a dynamic formation that changes in accordance with the content of the educational process related to the needs of society and the labour market» (Filimonova, 2018). Therefore, there is a need for periodic review and clarification of the content of pedagogical conditions as a guarantee of quality training of future teachers.

The Ukrainian pedagogical dictionary defines «conditions» as «features of real reality under which something happens or is carried out; provisions that underlie something» (Honcharenko, 2019). Under certain circumstances, conditions are the main driving force, an effective stimulus for the development of any process.

In the large explanatory dictionary of the modern Ukrainian language, the concept of «conditions» is interpreted as «necessary circumstances, features of reality that make it possible to implement, create, form something or contribute to something» (Busel, 2001).

Also, «pedagogical conditions» are defined as «circumstances on which the valuable productive pedagogical process of professional training of specialists depends and takes place, which is mediated by the activity of an individual, a group of people» (Semenova, 2007, p.243).

In this context, the considerations of Y. Babansky are significant for us, who defines that «pedagogical conditions are: such circumstances under which the components of the integral pedagogical process of professional training of specialists are mediated by the activity of an individual or a group of people; a reflection of the relationship of the pedagogical process to those factors due to which it arises and there is a need to transfer social experience to the younger generation; the need to train pedagogical personnel to implement this goal; factors influencing the selection of teaching and education technologies, its organization» (Babansky, 1984).

In the context of our scientific research, we associate the determination of the specifics of psychological and pedagogical conditions with specially created, purposefully directed pedagogical circumstances that contain a system of pedagogical means and contribute to the process of training future teachers of natural sciences, through the direction of all components (goal, objectives, principles, forms, methods and content of educational components) to the formation of their readiness to carry out health-preserving work in the process of professional activity.

The analysis of psychological and pedagogical conditions of future natural science teachers' preparation for health-saving activities allows us to assert that the humanistic mission of adhering to the rules of a healthy lifestyle and the corresponding program and content of health-saving education require new approaches to the professional training of future teachers, which allow them to form a new educational experience of independent construction of an educational strategy and restructuring of their own life philosophy from the position of subjectivity, reflexivity, and focus on preserving the health of school students.

The article proposes a set of psychological and pedagogical conditions that will contribute to the successful implementation of the functional model of training of higher education applicants in the natural sciences to organize health-saving education of schoolchildren.

In order to implement the outlined research objectives, the described psychological and pedagogical conditions must meet the following requirements:

- ensure a positive impact on the effectiveness of the educational process, which will contribute to the preparation of future natural science teachers for professional activity;
- meet the requirements of the organization and specificity of the study;
- to take into account the results of the analyzed experience of training future specialists to work in educational institutions.
- to highlight the advanced trends in the formation of educational space and health-saving requirements of sustainable development of society.

Thus, the psychological and pedagogical conditions for the preparation of future teachers of natural science disciplines for professional activity include:

1. Updating the educational content of the educational and professional program for preparing future teachers for professional activities in accordance with the requirements of the information and digital society and educational transformations.
2. The use of innovative learning formats (blended learning, distance learning), interactive methods and innovative technologies in the process of training future specialists.
3. Formation of a system of value orientations, norms and rules of behaviour in future teachers in accordance with the chosen type of professional activity.
4. Continuing work on the formation of critical thinking and the basics of media education and media literacy.
5. Improvement of the practical component of training by extending the terms of various types of practice (propaedeutic, educational, introductory, local history, pedagogical production, etc.), expanding practice bases, optimizing the tasks of the cross-cutting practice program.
6. The use of health-saving technologies in the educational process in order to increase the effectiveness of their impact on the formation, strengthening and preservation of the health of school students as an integral complex of conceptually interrelated tasks, content, forms, methods and techniques of teaching aimed at the comprehensive development of schoolchildren through the organization and observance of healthy lifestyle rules.

The proposed list of psychological and pedagogical conditions will contribute to the effective implementation of the functional model of training of higher education applicants in the natural sciences to organize health-saving education of schoolchildren and will form students' readiness to optimise health-saving education of schoolchildren.

The analysis of educational and professional programs in natural sciences implemented by modern HEI suggests that health saving of young people should be a component of professional training, which should ensure the development of the ability to solve practical problems related to health.

The program includes a list of educational components, the content of which includes topics on the formation of a healthy lifestyle and health saving for students of general secondary education institutions (normative disciplines, which include general training cycles and a vocational training cycle. Vocational training includes disciplines of the theoretical block and practical training; the second section is elective educational components or components of free choice of the student. Among these educational components, we can see the content of health-saving topics and problems of human life and health saving.

In this context, it is worth paying attention to the use of a propaedeutic program to update the content of higher education in the study of psychological and pedagogical disciplines, specialized disciplines, and to saturate the content of the integrative block of elective educational components, which includes disciplines related to healthy lifestyles and health saving. A special emphasis is placed on ensuring the continuity of all types of internships that will develop the practical component of future teachers' training.

All professional training programs for future natural science teachers contain great potential opportunities that ensure the formation of content and practical blocks of the structural and functional model of the process of training future teachers to implement health-saving activities in general secondary education institutions (GSEI).

The process of training future teachers is presented in the form of a functional and structural model, which includes target, subject, content, functional, organisational and evaluation components (blocks).

The problem of future natural science teachers' readiness to carry out health-saving activities is an important socio-pedagogical problem, the solution of which covers the actual problems of both a separate community and society as a whole. After all, in modern conditions, the issues of strengthening and preserving the health of school students and expanding their orientation towards a healthy lifestyle are of particular importance.

Based on the analysis of the practical activities of the GSEI, we understand that the targeted health-saving work of natural science teachers with school students requires serious thorough training, which should begin during their studies in higher education institutions. The considerations of well-known scientists (Andrushchenko & Oleksenko, 2007; Yevtukh, 2002) and are in line with this. The researchers emphasise that «professional training is a process of accumulating a fund of knowledge, skills and abilities in a particular field of activity, a process of forming the readiness of a future teacher for professional activity with secondary school students» (Chobitko, 2006). Accordingly, the educational process of vocational teacher pedagogical education should be organized in such a way as to ensure that students not only know various aspects of health saving, but also develop their ability to independently design and apply the health-saving function of natural sciences in the educational process of GSEI.

After all, according to B. Shyian, «in order for a teacher to become a master in solving pedagogical problems, he needs to purposefully develop his or her general pedagogical and special (taking into account the specifics of his profession) abilities. A professional teacher should have knowledge of the theory of teaching and upbringing, the subjects of the medical and biological cycle, the theory and methods of teaching his subject, the methods of using technical means of education, computer technologies, etc.» (Shyian, 2001, p. 372).

Every year, health saving education becomes a prerequisite for the training of a modern specialist in the field of education. Since a teacher is a person, a subject of the educational process, on whom parents, colleagues, school, region, and the whole country place special hopes in terms of the ability to preserve the health of students in the process of their education and organized leisure.

For teachers of natural science disciplines, health saving is a component of special professional training, which should contribute to the development of skills to solve vital practical problems that, under martial law, are related not only to maintaining good health of schoolchildren, but also to protecting them from various problems and challenges to preserve the health and life of the individual as the highest professional and pedagogical value.

According to researcher I. Chervinska, «The period associated with educational activities in higher education institutions is special in the formation of professional and pedagogical values. This is the time when adequate professional self-esteem and the level of aspirations are formed - a transition to a new stage of cognitive and personal development, significant social motives and aspirations appear. The peculiarity of this stage is the outlining of a range of personal values, as well as their emotional experience, awareness and consolidation in activity. Modern practice proves that the lack of ideas about the future prospects of the future profession reduces the activity of the individual, slows down the process of forming professional and pedagogical values, makes the person disoriented in their activities» (Chervinska, 2013).

Thus, obtaining health-saving education allows solving several important tasks related to the preservation of schoolchildren's health, which is the basis for ensuring the success of life.

Therefore, in the context of our study, we understand the health-saving activity of future natural science teachers as a specially organized and controlled type of pedagogical activity of an educational institution, the main purpose of which is to preserve and develop the health of participants in the educational process, aimed at implementing such forms, methods and means of teaching that, by improving the educational process, contribute to the preservation and promotion of schoolchildren's health. This process is based on the use of the latest pedagogical health-saving technologies and includes a system of educational and upbringing activities that guide schoolchildren to a healthy lifestyle by incorporating them into the life practices of a growing personality.

Based on the content analysis of psychological and pedagogical literature (Shorobura & Chubrei, 2019), the main basic principles of health-saving activities include:

- Creating an emotionally stable educational space of an educational institution that will protect schoolchildren from negative emotions and stressful situations.
- Knowledge of the psychological, physiological, age and social peculiarities of students' development.
- Applying an individual approach to each student in the educational process, in accordance with their actual state of physical health.
- Providing situations of success, problematic situations, mutual learning and self-analysis during the educational process and leisure activities.
- Formation of positive motivation through involvement in simulation techniques, methods of organizing a healthy lifestyle for schoolchildren, development of effective mechanisms for ensuring a health-saving environment.
- Selection of health keeping technologies both during school lessons and in the organization of leisure activities for school students.

The study of psychological and pedagogical conditions that contribute to the formation of future teachers' readiness for health saving of GSEI students involves the formation of certain features and professional qualities of the future teacher's personality, the totality of which is characterized by the concept of «readiness».

The analysis of scientific literature and research shows the lack of a common understanding of the interpretation of the issue of «teacher's readiness» by scientists. In particular, the concept of «readiness» is considered as: an attitude, as an ability, as personal education, as a quality or property of a person, as an emotional state of a person and as a pedagogical orientation of the teacher's personality education, which includes a system of interrelated structural components.

In general, readiness is «an integral, professionally significant quality of a teacher's personality, which includes a system of interrelated structural components that characterize both personal (motivation and interests) and procedural (professional knowledge and competences) aspects» (Starosta, 2019).

Thus, in the context of the studies we analyzed, «the future teacher's readiness to carry out health-saving activities is an integrative characteristic of personality qualities, which includes a holistic systemic organization of certain types of work and a complex multi-level structure, which is characterized by the interaction and interpenetration of physical, cognitive-motivational, practical (operational-activity) and reflective components, the degree of formation of which determines the health-saving nature and logic of pedagogical activity, the direction of professional growth of future teachers of natural sciences in GSEI» (Gavrish, 2005).

Thus, the components of a natural science teacher's readiness are as follows:

Motivational component of future natural science teacher's readiness for health-saving activities, which includes:

- Understanding of the relevance of the future teacher's health-saving activities both during lessons and during organized leisure time of school students.
- Motivation to master the theoretical and practical components of health-saving education in GSEI and improve health-saving competence.

- Motivational focus on the application of effective mechanisms of healthy lifestyle aimed at organizing effective promotion of healthy lifestyle, desire to pass them on to schoolchildren in the process of pedagogical activity.
- A creative approach to the use of rational methods of health-saving education, integration of advanced domestic and foreign practices (innovative methods, forms, technologies and teaching aids) into the educational process.
- Formation of value orientations and attitudes towards the basics of health saving in school students as an effective condition for improving the effectiveness of pedagogical activities.
- Development of interest in educational activities aimed at forming a healthy lifestyle, personal self-development and professional growth.

Physical component of the future teacher's readiness is determined by the state of physical fitness, level of physical development and professional performance. In particular: striving for physical development and self-improvement, physical education and resilience.

Cognitive component of readiness includes:

Mastery of theoretical and methodological knowledge of basic concepts and methodology for leading a healthy lifestyle, personal health, physical development.

Knowledge of the leading approaches to the education of a healthy personality, mastery of educational technologies aimed at intensifying the process of preserving the health of a growing personality.

The practice-oriented component of the future science natural teacher's readiness to organize and implement health-promoting activities involves:

- Mastering innovative personality-oriented methods of organizing practical activities.
- Formation of health-saving competences through their practical application and testing in the educational process of a modern educational institution.

The reflective component describes:

- Cognitive processes and the ability to analyze one's own pedagogical activity.
- Conducting periodic health diagnostics, studying school records, medical records of students, if necessary - health groups, etc.

It should be noted that all the components we have analyzed are interrelated. However, the motivational component is the basic one. It encourages the formation of all other components.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Psychological and pedagogical conditions are significant circumstances that contribute to the formation of professional competence and experience of pedagogical activity of a future specialist in the natural science education field of knowledge. However, it is worth noting that even their successful implementation does not guarantee the achievement of high professional results, as they only motivate and facilitate the process of professional formation of future teachers. Psychological and pedagogical conditions as components of a holistic pedagogical system of training specialists in the relevant educational field highlight the possibilities of the educational process, reveal the specifics of the educational environment, and have a certain impact on the personal development of a future teacher of natural science disciplines. In general, they support and ensure the effective functioning and development of the entire system of vocational education.

Our analysis of the psychological and pedagogical conditions of training future teachers of natural science disciplines will contribute to the analysis of the peculiarities of the educational process in the realities of martial law and optimization of the process of professional training for health-saving activities in modern general secondary education institutions. Further scientific research should be directed to the problem of preserving and improving the health of students as a subject of scientific discourse.

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ВПЛИВ ЕМОЦІЙНОГО ІНТЕЛЕКТУ НА ЕФЕКТИВНІСТЬ ФОРМУВАННЯ ІМІДЖУ МАЙБУТНЬОГО МЕНЕДЖЕРА ОСВІТИ В ПРОЦЕСІ ПРОФЕСІЙНОЇ ПІДГОТОВКИ

Анотація. У статті на підставі отриманих результатів опрацювання наукових джерел та ознайомлення з практикою діяльності успішних менеджерів освітніх організацій, описано вплив емоційного інтелекту на ефективність формування іміджу майбутнього менеджера освіти в процесі професійної підготовки.

Під час проведення дослідження та підготовки статті використовували такі методи: метод контент-аналізу для опрацювання масивів наукової літератури з окресленої проблеми та її систематизації, методи аналізу й синтезу, спостереження використовували під час ознайомлення з успішними практиками діяльності менеджерів освіти та аналізу освітніх професійних програм, які забезпечують їх підготовку.

Автор розглядає роль емоційного інтелекту в процесі професійної підготовки майбутніх менеджерів освіти та його вплив на формування їхнього професійного іміджу. Окреслено основні складові емоційного інтелекту, що сприяють ефективній комунікації, розвитку управлінських здібностей. Описано процес формування іміджу майбутнього менеджера освіти в умовах професійної підготовки. Визначено основні чинники, що впливають на створення позитивного іміджу, зокрема роль емоційного інтелекту, комунікативних навичок. Наведено практичні рекомендації щодо вдосконалення професійного іміджу майбутніх управлінців освітньої сфери. Наголошується, розвиток емоційного інтелекту суб'єктів освітнього процесу, особливості їх комунікації та освітньої співпраці є визначальними показниками ефективності сформованості предметних компетентностей, рівня фахової підготовки та навиків конструктивної взаємодії.

Вказується, що формування іміджу майбутнього керівника залежить від кількох основних чинників пов'язаних із розвитком професійної компетентності – рівня знань і навичок у сфері освітнього менеджменту, від розвитку комунікаційних навичок, поєднаних з вмінням вести переговори, вирішувати конфлікти, підтримувати ефективний діалог, володіти правилами невербальної комунікації – жестикуляцією, мімікою тощо.

Ключові слова: емоційний інтелект, імідж менеджера освіти, професійна підготовка, комунікація, менеджер освіти.

THE INFLUENCE OF EMOTIONAL INTELLIGENCE ON THE EFFECTIVENESS OF FORMING THE IMAGE OF A FUTURE EDUCATION MANAGER IN THE PROCESS OF PROFESSIONAL TRAINING

Abstract. The article, based on the results of the study of scientific sources and familiarization with the practice of successful managers of educational organizations, describes the influence of emotional intelligence on the effectiveness of forming the image of a future education manager in the process of professional training.

During the study and article preparation, the following methods were used: the method of content analysis for processing arrays of scientific literature on the outlined problem and its systematization, methods of analysis and synthesis, observations were conducted during the familiarization with successful practices of education managers, and analysis of educational professional programs that provide their training.

The author considers the role of emotional intelligence in the process of professional training of future education managers and its influence on the formation of their professional image. The main components of emotional intelligence that enhance effective communication and managerial skill development are outlined. The process of forming the image of a future education manager in the conditions of professional training is described. The main factors influencing the creation of a positive image are identified, in particular the role of emotional intelligence, communication skills and social competence. Practical recommendations are given for improving the professional image of future managers in the educational sphere. It is emphasized that the development of emotional intelligence among participants in the educational process, the features of their communication and educational cooperation are determining indicators of the effectiveness of the formation of subject competencies, the level of professional training and skills of constructive interaction.

It is indicated that the formation of the image of a future manager depends on several main factors related to the development of professional competence – the level of knowledge and skills in the field of educational management, the development of communication skills combined with the ability to negotiate, resolve conflicts, maintain effective dialogue, master the rules of non-verbal communication – gestures, facial expressions, style of behavior.

Keywords: emotional intelligence, education manager's image, professional training, communication, education manager.

INTRODUCTION

The problem formulation. The success of a future education manager is based on the knowledge, skills, and competencies acquired during the learning process. This is the most crucial stage in the development of a future specialist, incorporating psychological-pedagogical, cognitive, and personal components that determine the effectiveness of professional self-realization.

Currently, a significant number of studies focus on identifying the psychological and personal characteristics of the educational activities of future education managers, which influence their future professional success, professional choice, and career development.

A well-developed level of emotional intelligence allows an individual to find inner support to maintain emotional stability, even under constant stress. Since the onset of the war, addressing issues of psychological-pedagogical and spiritual balance has gained particular importance, highlighting the need for the introduction of academic disciplines in educational institutions that delve into the essence and manifestations of emotional intelligence for professionals in the field of education management. «As researcher A. Klochko states, 'Today, developing the emotional intelligence potential of education managers is highly relevant, as it is a key factor in achieving success» (Klochko, 2019).

In this context, the development of emotional intelligence among education participants, their communication characteristics, and their collaboration in education are defining indicators of the effectiveness of subject-specific competencies, the level of professional training, and constructive interaction skills.

Analysis of recent research and publications. A review of scientific literature shows that emotional intelligence has been explored by domestic scholars such as H. Bereziuk (2008), S. Derevian ko (2016), and E. Nosenko (2003), as well as international researchers, including Goleman D. (2004), Mayer J. D., Caruso D. R., Salovey P. (2016), R. Bar-On (1997), Campion M. A., Fink A. A., Ruggeberg B. J., Carr L., Phillips G. M., Odman R. B. (2011). Their work addresses the perception and understanding of emotions, their management, the ability to cope with external pressures, empathy, and self-control.

Researchers from various disciplines, including educational management, psychology, pedagogy, sociology, and philosophy, examine emotional intelligence as a key phenomenon. Interest in this issue arises from emotional intelligence's development across life stages, its role in professional success, and its impact on holistic development.

The current state of research is characterized by «scientific comprehension of the nature of this phenomenon, the emergence of different conceptual approaches to understanding its structure, justification of theoretical foundations, and the study of its applied significance, along with the development of psychodiagnostic methods for its assessment» (Rakityanska, 2020).

Content analysis of scientific works by T. Bereziuk, S. Derevianko, and L.Rakityanska confirms that the ability to manage emotions is a crucial factor in successful integration into society and one's surrounding environment. Notably, international researchers vary in their interpretations of emotional intelligence and its effects—both positive and negative—on personality development.

Daniel Goleman defines emotional intelligence as « the ability to recognize and regulate one's emotions, self-motivate, and empathize with others.» Emotional intelligence «ensures a balance between the «rational» and the «emotional», harmonizing the «mind» and «heart», thereby contributing to overall life success» (Goleman & Boyatzis, 2004).

THE PURPOSE OF THE RESEARCH

The aim of this article is to examine the impact of emotional intelligence on shaping the professional image of future education managers during their training. The study is based on an analysis of scientific literature and the practices of successful education managers.

RESEARCH METHODS

The research employed various methods, including content analysis to process and systematize scientific literature, as well as methods of analysis and synthesis. Additionally, observation was used to study successful education management practices and assess professional training programs.

RESULTS OF THE RESEARCH

Emotional intelligence has become a key professional competency for future education managers, serving as a prerequisite for professional success. In modern psychological and pedagogical sciences, emotional intelligence is defined as «the ability to monitor one's own and others' feelings and emotions, distinguish between them, and use this information to guide thinking and actions» (Mayer, Di Paolo & Salovey, 1990).

For many professions categorized under the «human-human» system such as educators, education managers, social workers, psychologists, and pedagogues—emotional intelligence is fundamental to professional success. Professionals in these fields must possess well-developed emotional intelligence to effectively manage interpersonal relationships and workplace dynamics.

Recent studies have shifted emotional intelligence from being viewed as a personal trait to a professionally significant competency, emphasizing its role in managing emotions and maintaining professional effectiveness.

For future education managers, studying emotional intelligence as a professional asset is particularly relevant due to the nature of their responsibilities. Integrating emotional intelligence training into education management programs is essential, as it fosters a balanced development of both emotional and cognitive skills. This integrative approach ensures that future professionals can navigate complex interpersonal and organizational challenges effectively.

Since emotional intelligence enhances professional success, strengthens interpersonal interactions, and improves feedback efficiency, its development is crucial-especially in the early stages of professional training.

However, the role of an education manager encompasses a wide range of «professional activities», each with distinct demands. While emotional intelligence manifests differently across various educational and managerial roles, it remains a critical factor in career advancement and leadership effectiveness.

The relevance of emotional intelligence for future education managers stems from the inherently emotion-driven nature of their profession, the reliance of career success on effective interpersonal relationships within teaching teams, and the need for strong organizational and managerial skills.

Notably, the development of emotional intelligence influences both self-perception in the profession and the effectiveness of educational activities. It plays a crucial role in achieving academic success, developing professional competencies, conducting research, gaining managerial experience, and working as an analyst or consultant in the educational sector.

Emotional intelligence is a complex phenomenon that integrates emotions and intellect. In today's world, it is considered both a key personal trait and a vital professional competency. It enables successful social integration, effective self-presentation, and positive relationship-building across various professional and social contexts, including peer interactions, teamwork, business partnerships, and project management.

The significance of emotional intelligence is further reinforced by its inclusion among the «specialized professional skills» (hard skills) essential for modern managers (Campion & Fink, 2011)

As noted by L. Pavlovska and K. Kashchuk in their article «Emotional Intelligence of Managers and Its Assessment», the view that emotional intelligence is essential not only for managers but also for all future employees as a form of «universal experience» (soft skill) has gained increasing popularity. Unlike the traditional English-language classification of skills into «soft» and «hard», recent competency models propose categorizing skills into three groups:

1. Existential (meta-skills)
2. Cross-contextual (in the 4K model, this includes communication, creativity, critical thinking, and collaboration)
3. Contextual (specialized) (Pavlovska & Kashchuk, 2020)

In this classification, emotional intelligence is placed in the first group, alongside skills such as goal-setting, learning capabilities, and reflective abilities. By systematizing research on emotional intelligence in management, we can identify the following key components in the activities of an education manager: effective communication, emotional resilience and stress management, team motivation and inspiration, conflict prevention and resolution within the teaching staff, creativity, and decision-making. The integration of these emotional intelligence components into the work of an education manager is illustrated schematically in (Figure 1).

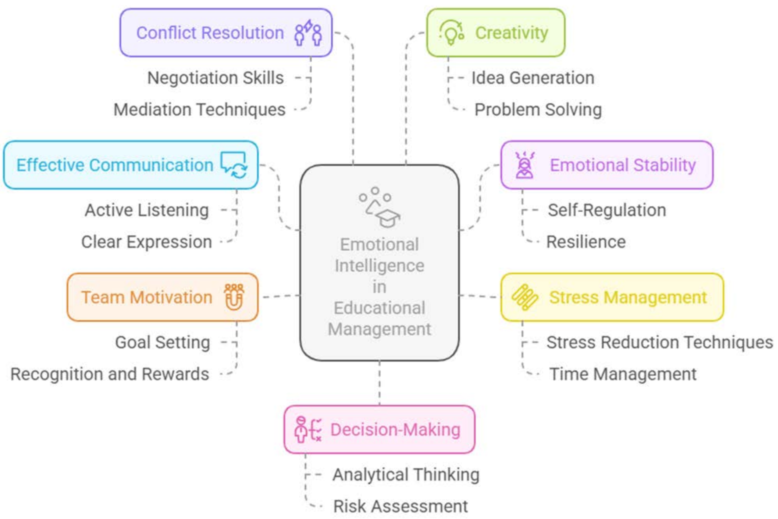

Figure 1. Integrating the components of emotional intelligence into the activities of an educational manager

Emotional intelligence is a set of intellectual abilities that enable individuals to understand and manage their own emotions, as well as recognize and understand the emotions of others. In essence, emotional intelligence is the ability to identify, comprehend, and regulate emotions both personal and interpersonal.

However, simply possessing intelligence is not enough for success; emotional intelligence is equally essential. The development of emotional intelligence depends on cognitive traits, the formation of an understanding of emotions' significance, and the cultivation of emotional response skills. Of particular interest, in our view, are the various connections between emotional intelligence, personal characteristics of participants in the educational process, and the socio-cultural educational environment in which future education managers operate.

A well-developed emotional intelligence facilitates problem-solving and goal achievement in education, work, and personal life. Young people with strong emotional intelligence possess communication, mediation, and management skills, which positively influence negotiation processes and decision-making, allowing them to respond effectively to challenging situations.

Understanding emotional states and perceiving emotions allow individuals to react appropriately to life events, verbal cues, virtual images, and other life situations. Failing to understand another person's emotions and respond accordingly can lead to misperceptions, triggering conflicts.

Managers with well-developed emotional intelligence typically analyze the causes of conflict before reacting to others' actions or emotions. This reflective approach enables them to handle criticism constructively and respond appropriately to the behavior and actions of their interlocutors in educational interactions.

In essence, emotional intelligence enables individuals to manage their emotions, motivate themselves, and persist in achieving goals despite challenges and obstacles.

At the World Economic Forum in Davos (Switzerland), emotional intelligence was recognized as one of the most in-demand competencies in the modern labor market, particularly in the context of the Fourth Industrial Revolution. This recognition is largely due to the fact that understanding and managing emotions is crucial in both social interactions and professional activities.

The well-known Israeli psychologist R. Bar-On proposed a model of emotional intelligence that differs from other approaches. He emphasizes that emotional intelligence is not merely a set of cognitive abilities or social competencies, but rather a combination of non-cognitive abilities, knowledge, and skills that enable individuals to effectively navigate various life situations (Pylgun, 2019).

According to R. Bar-On, emotional intelligence is composed of five main components that define its essence:

1. Personal Component (Intrapersonal Skills) – This includes self-awareness, self-esteem, self-actualization, and independence. It reflects a person's ability to understand themselves, recognize their strengths and weaknesses, and manage their own emotions effectively.

2. Social Component (Interpersonal Skills) – This encompasses the ability to communicate and interact effectively with others. It includes empathy, building interpersonal relationships, and social responsibility. It reflects a person's capacity to understand others, form meaningful relationships, and engage positively with their environment.

3. Adaptability – This factor relates to flexibility, problem-solving, and the ability to adapt to change. It demonstrates a person's ability to cope with stressful situations and overcome challenges.

4. Stress Management – This is the ability to handle stress effectively, maintaining emotional balance and a healthy psychological state during difficult situations.

5. General Mood – This factor includes happiness and optimism. It reflects a person's overall emotional state and their ability to experience satisfaction and joy in life.

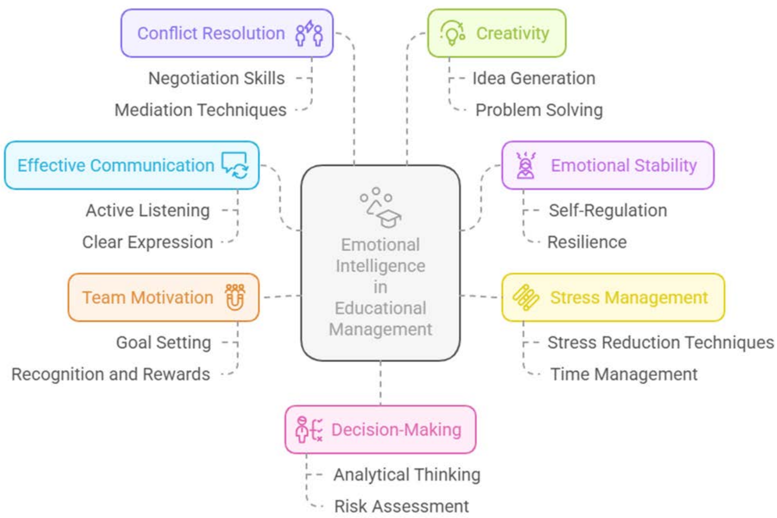

Figure.2 Components of emotional intelligence according to R. Bar-On, 1997.

Emotional intelligence refers to the ability to recognize, understand, manage, and influence both one's own emotions and those of others. The term gained widespread recognition through the work of psychologist Daniel Goleman (2004), who identified key components of emotional intelligence. These components are as follows:

Emotion Identification – The ability to perceive emotions, express them appropriately, and distinguish between genuine emotions and their imitation.

Using Emotions to Enhance Thinking and Activities – The ability to use emotions to focus attention on specific events and phenomena, solve creative problems, and develop unconventional solutions.

Understanding Emotions – The ability to comprehend the complexity and interconnections of emotions and understand verbal emotional cues.

Managing Emotions – The ability to control emotions, reduce the intensity of negative emotions, and resolve emotionally challenging or unstable situations. Effectively managing emotions contributes to personal growth and significantly enhances interpersonal relationships, particularly between education managers and school staff.

The development of emotional intelligence in future education managers aids in social adaptation within a team, fosters effective communication, and helps resolve conflicts. It also nurtures the development of empathy, logical thinking, and stress resilience.

- Indicators of Developed Emotional Intelligence include:
- The ability to express emotions verbally or through imagery, such as drawings, graphic representations, and visual symbols.
- The ability to listen attentively and understand others in communication.
- Willingness to accept criticism.
- Types of Emotional Intelligence are classified as follows:

By Level of Development:

- High Emotional Intelligence – The individual effectively controls their emotions, demonstrates empathy, and communicates efficiently with both leaders and subordinates.
- Moderate Emotional Intelligence – The individual partially controls their emotions but often reacts impulsively.
- Low Emotional Intelligence – Emotions dominate behavior, making it difficult for the individual to understand others.

By Sphere of Application:

- Personal Emotional Intelligence – The ability to manage one's own emotions and maintain self-awareness.
- Social Emotional Intelligence – The ability to interact effectively with others, understand their feelings, and respond to their moods.

To better illustrate the essence of emotional intelligence, we propose examining both its positive and negative aspects. Positive aspects of emotional intelligence for a future education manager:

Improved self-esteem and psychological stability – emotional intelligence helps maintain balance and enhances self-perception.

Facilitates strong interpersonal relationships – It supports the development of positive, constructive relationships among participants in the educational process.

Reduction of stress and anxiety – especially significant in challenging environments, such as during martial law, emotional intelligence helps manage stress.

Increased quality and speed of managerial decision-making.

Assistance in career growth and leadership.

Among the negative aspects of emotional intelligence for a future education manager:

Excessive self-control – overcontrol of emotions can lead to emotional suppression, which may hinder personal expression.

High empathy leading to emotional burnout.

Manipulative use of emotional intelligence – In some cases, individuals may use their emotional intelligence manipulatively, becoming emotional manipulators.

Perception of coldness – Strong emotional control may give the impression of a «cold», unemotional personality, potentially affecting personal and professional relationships.

Emotional intelligence is a skill that influences all areas of life, from personal relationships to career progression. Its development allows individuals to manage their own emotions, understand others, and create a harmonious and productive life.

In today's realities, emotional intelligence is becoming a subject of scientific discourse not only among psychologists but also among researchers from other fields of knowledge - educators, social workers, practical psychologists, psychiatrists, sociologists, and philosophers. They study emotional intelligence to generalize its specific manifestations in the process of educational interaction and interpersonal communication, to highlight the positive aspects of this communication, to determine ways of forming various emotional competencies, and to clarify how already developed skills contribute to the further development of emotional intelligence.

While researchers sometimes differ in their views on the stable components of emotional intelligence, there is general consensus that it can be cultivated through systematic training and practical experience.

In the modern context, especially under the conditions of martial law, emotional intelligence serves as an important personal competency. It enables individuals to be communicative, flexible, and expressive in their interactions, capable of setting priorities and choosing the most effective paths to achieve their goals. Emotional intelligence is crucial for both personal and professional self-realization.

The significance of emotional intelligence in modern life is particularly underscored by its heightened demand during times of crisis. Various media outlets and social networks emphasize the necessity of developing emotional intelligence to facilitate effective communication, enhance success in professional activities and education, foster career growth, and ultimately achieve a sense of fulfillment and happiness.

The ability to be aware of one's own emotions and emotional states can be developed through training. A variety of active methods, techniques, and exercises can be employed to not only foster emotional self-awareness but also help future education managers cope with negative emotions during crisis situations. Effective practices include mini-meditation exercises, mindfulness techniques, maintaining an «emotions journal», and methods for stabilizing emotional states (Basyuk, 2023).

A high level of emotional intelligence is a crucial competency for individuals and professionals in any field. The ability to manage one's emotions, understand the emotions of others, remain optimistic, stay motivated, support colleagues, and demonstrate empathy are essential qualities, particularly in the educational sector. The higher the emotional intelligence of an education manager, the more effectively they are able to assist their colleagues and subordinates. Moreover, the more developed their emotional culture, the less susceptible they are to stress and emotional burnout. This is especially valuable in the challenging conditions of war in our country.

Modern education managers must possess not only administrative and managerial skills but also the ability to interact effectively with staff, learners, and the public. The formation of a professional image is a key component for a successful career as future leaders of educational institutions.

The formation of a future leader's professional image is influenced by several key factors related to the development of professional competence. These include the level of knowledge and skills in educational management, the development of communication abilities, and the capacity to negotiate, resolve conflicts, maintain effective dialogue, and master nonverbal communication such as gestures, facial expressions, and behavioral styles.

Personal qualities such as leadership, responsibility, organization, stress resistance, appearance, and adherence to an appropriate dress code are also critical in shaping the professional image of future education managers.

The process of professional training should encompass the development of competencies essential for creating a positive image of future education managers. Key areas of training include theoretical learning (such as mastering the basics of educational management and acquiring knowledge in psychology and pedagogy), practical exercises (such as simulating real management situations), and internships (gaining professional experience in general secondary education institutions and extracurricular education settings).

A well-established professional mentoring system is an effective mechanism for enhancing the formation of a professional image. This involves collaboration with experienced education administrators, familiarization with their practical activities, and learning from their successes.

For successful managerial activities, it is essential to present one's work, development programs, and management strategies effectively, as this allows for the cultivation of self-expression and influence over audiences.

To optimize the formation of the professional image of future education managers, it is crucial to employ methods that focus on the development of emotional intelligence. This includes organizing training sessions aimed at enhancing self-control, emotional management, and improving public speaking and negotiation skills.

A crucial element in this process is professional networking through participation in conferences, seminars, and the exchange of experiences. To enhance the recognition of future education managers, it is recommended to engage in image-building activities that focus on developing an appropriate style of business behavior, mastering the fundamentals of nonverbal communication and behavioral models, and creating a personal brand. This can be achieved through the development of a professional image on social media and showcasing public achievements in the mass media.

The formation of the image of future education managers is a vital aspect of their professional training. A high level of emotional intelligence, communication skills, and professional competence plays a key role in creating a positive managerial image. The use of specialized techniques and targeted training helps future leaders effectively influence the educational process and achieve success in their careers.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

The presence of well-developed emotional intelligence in future education managers enables them to be more adaptive and adjust easily to changes in the educational environment. This is achieved through the ability to control internal impulses and emotional states.

This aspect becomes especially important in times of instability, uncertainty, and anxiety, particularly when a safe environment is absent circumstances often arising from prolonged wartime conditions.

In the current realities of societal development, emotional intelligence has become a crucial personal competency that allows future education managers to be more communicative, flexible, and independent in expressing their views. It supports their ability to shape both their personal development trajectories and strategies for the effective development of teaching and student teams, enabling them to set priorities and choose the most effective approaches to achieve their goals.

Future research prospects lie in defining the pedagogical conditions necessary for forming the professional image of future education managers.

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Chapter IV. PROBLEMS OF EDUCATION AND UPBRINGING OF CHILDREN IN EDUCATIONAL INSTITUTIONS OF MOUNTAIN REGIONS

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ОСОБЛИВОСТІ ЗАСТОСУВАННЯ LEGO-ТЕХНОЛОГІЙ В ОСВІТНЬОМУ ПРОСТОРІ НОВОЇ УКРАЇНСЬКОЇ ШКОЛИ: ТЕОРЕТИЧНИЙ І ПРАКТИЧНИЙ АСПЕКТИ

Анотація. Стаття присвячена проблемі застосування LEGO-технологій в освітньому просторі Нової української школи. На онові вивчення джерельної бази та результатів проведеного дослідження зроблено висновок, що застосування LEGO в освітньому процесі початкової школи дає змогу вчителеві розкрити пізнавальні можливості кожного учня, який є суб'єктом освітнього процесу. Доведено, що використання LEGO є ефективним під час розвитку мовленнєвих, математичних, природничих, технологічних, соціальних і здоров'язбережувальних, громадянських та історичних компетентностей і «навчання через гру» можливе з конструктором LEGO. Окрім того, LEGO-технології на уроках у початковій школі активізують розвиток пам'яті, уваги, уяви, логічного мислення, сприяють встановленню здобувачами освіти закономірностей. Як показали результати нашого дослідження, учителі початкових класів м. Коломиї ефективно використовують LEGO-технології на уроках під час ранкових зустрічей, для організації навчальної та дослідницької діяльності; для актуалізації опорних знань та життєвого досвіду учнів; для сприймання і осмислення навчального матеріалу; для узагальнення та систематизації знань, умінь та навичок учнів; для рефлексії тощо. Найчастіше на уроках «Я досліджую світ» педагоги застосовують LEGO-технології для узагальнення та систематизації знань – 83,3%, для рефлексії – 66,7%, під час проведення ранкових зустрічей – 55,6%, для актуалізації опорних знань, умінь та навичок – 47,2%, для сприймання та осмислення нового навчального матеріалу – 36,1%. LEGO-технології дають змогу організувати як фронтальну роботу молодших школярів, спрямовану на вивчення обраних тем, різних предметів у межах класно-урочної системи, так і самостійну творчу роботу, проєктну форму організації занять. Організація навчально-ігрової діяльності вимагає від учителя відповідної методичної компетентності та високої майстерності, щоб знайти у грі з LEGO будь-який метод навчання.

Ключові слова: LEGO-технології; молодший школяр; початкова школа; учитель початкових класів; гра; інтегрований курс «Я досліджую світ»; формування мовленнєвих, математичних, природничих, технологічних, соціальних і здоров'язбережувальних, громадянських та історичних компетентностей.

PECULIARITIES OF USING LEGO-TECHNOLOGIES IN THE EDUCATIONAL SPACE OF A NEW UKRAINIAN SCHOOL: THEORETICAL AND PRACTICAL ASPECTS

Abstract. The article is devoted to the problem of using LEGO technologies in the educational space of the New Ukrainian School. On the basis of the study of the source base and the results of the research, it is concluded that the use of LEGO in the educational process of primary school allows the teacher to reveal the cognitive capabilities of each student who is the subject of the educational process. It is proved that the use of LEGO is effective in the development of speech, mathematical, natural, technological, social and health, civic and historical competences and that «learning through play» is possible with LEGO. In addition, LEGO technologies in primary school lessons activate the development of memory, attention, imagination, logical thinking, and help students to establish patterns. According to the results of our study, primary school teachers in Kolomyia effectively use LEGO technologies in the classroom during morning meetings, to organise learning and research activities; to update students' background knowledge and life experience; to perceive and comprehend educational material; to summarise and systematise students' knowledge, skills and abilities; to reflect, etc. Most often, teachers use LEGO technologies in «I Explore the World» lessons to summarise and systematise knowledge (83.3%), for reflection (66.7%), during morning meetings (55.6%), to update basic knowledge, skills and abilities (47.2%), and to perceive and comprehend new learning material (36.1%). LEGO technologies make it possible to organise both frontal work of younger students aimed at studying selected topics and various subjects within the classroom system, as well as independent creative work and project-based learning. The organisation of educational and gaming activities requires the teacher to have appropriate methodological competence and high skill to find any teaching method in a LEGO game.

Keywords: LEGO-technologies; primary school student; primary school; primary school teacher; game; integrated course «I Explore the World»; formation of speech, mathematical, natural, technological, social and health, civic and historical competences.

INTRODUCTION

Formulation of the problem. In the context of reforming primary education and implementing the New Ukrainian School (NUS) in the direction of humanising education, primary school teachers are required to find the optimal combination of means, methods and forms of pedagogical influence on students, and to awaken in them a strong interest in learning about the world. According to the New Ukrainian School Concept, child-centeredness plays a leading role in primary education. This principle is understood as the maximum approximation of education and upbringing of a particular child to his or her essence, abilities and life plans. The State Standard of Primary General Education envisages the organisation of the educational process using an activity-based approach on an integrated subject basis with a predominance of game methods in the first cycle (grades 1-2) and an integrated subject basis in the second cycle (grades 3-4) (State Standard of Primary Education in Ukraine 2018). The main features of learning in the New Ukrainian School Concept are as follows: «learning will be organised through activities, playful methods both in and out of the classroom...» (New Ukrainian school: a guide for teachers, 2017, pp. 19-20). According to the State Standard of Primary Education, 'the purpose of primary education is the comprehensive development of the child, his or her talents, abilities, competences and cross-cutting skills in accordance with age and individual psychophysiological characteristics and needs, the formation of values, the development of independence, creativity and curiosity' (State Standard of Primary Education in Ukraine, 2018).

An important task of modern education is to rethink the factors that determine the quality of the educational process in primary school, to introduce innovative teaching tools, methods and technologies, among which LEGO is of great importance, which modern scientists consider as a teaching tool, method and technology.

The analysis of recent research. Despite the fact that the issue of using LEGO in the educational process of primary school has been studied by various scholars (O. Roma is the author of the dissertation «Preparing Primary School Teachers in the System of Postgraduate Education for the Implementation of Game-Based Teaching Methods with LEGO» (Roma, 2020); the importance of play for teaching younger students is highlighted in the works of P. Koposov (2021), O. Savchenko, O. Dychkivska, and Bibik. Koposov (Koposov, 2021), O. Savchenko, I. Dychkivska, N. Bibik (Bibik, 2022; New Ukrainian school, 2017); LEGO as a means, method and technology of teaching in primary school was considered by T. Zaporozhchenko, K. Myroshnychenko (Zaporozhchenko, & Myroshnychenko, 2023); features of LEGO technologies as a means of development of primary school students were analysed by A. Rakhmanina (Rakhmanina, 2021); L. Romanenko, N. Volovenko highlighted the use of LEGO technology in primary school mathematics lessons (Romanenko, & Volovenko, 2020); methodological recommendations for the use of LEGO in the educational space of the NUS were proposed by O. Roma. Roma (Playing in a new way, studying in a different way, 2018; Six bricks in the educational space of the school, 2018), N. Sirant (Sirant, 2020), etc.), there is a need for a deeper analysis of the problem of using LEGO technology in the educational process of primary school.

AIM AND TASKS RESEARCH

The aim of the article is to reveal the main aspects of using LEGO construction sets in primary school in the context of the New Ukrainian School.

RESEARCH METHODS

The following methods were used in the study: analysis of scientific sources on the use of LEGO construction sets in primary school; empirical research methods: observation, comparison, questionnaire survey of primary school teachers; methods of statistical analysis: correlation analysis, content analysis.

RESEARCH RESULTS

The State Standard (2018) provides for the organisation of the educational process of the New Ukrainian School using an activity-based approach on an integrated basis (State Standard of Primary Education in Ukraine, 2018). The NUS concept directs teachers in their work with younger students to make extensive use of the latest technologies, methods, tools and forms of learning based on game and research activities (New Ukrainian School, 2017). The importance of game activities in the organisation of the educational process with younger students in psychology and pedagogy has been proven both at the theoretical and practical levels. However, the methodology of organising educational and game activities requires even more systematisation and coverage due to the fact that this aspect has reached the level of not only the personal initiative of a scientist or teacher, but has become a requirement of regulatory documents on the organisation of the educational process in primary school (Bibik, 2022; Koposov, 2021; Roma, 2020).

Taking into account the factors of quality primary education: «full and timely coverage of all children of primary school age with education; diverse use of the achievements of the preschool period; modernisation and improvement of the educational environment; introduction of methods of personality and competence-based learning, education and development of younger students; technological teaching methods» (New Ukrainian School, 2017), we can conclude that a necessary condition for achieving quality results in primary education is possible only if the game is introduced into the educational process of primary school.

According to the research of O. Roma, it was «with the introduction of the NUS Concept and the signing of the Memorandum of Understanding (2018) between the Ministry of Education and Science of Ukraine and The LEGO Foundation that a new educational strategy based on the integrative approach of «learning through play» entered the professional activity of primary school teachers, which combines child-oriented, accompanying and teacher-oriented learning in accordance with the characteristics of playful learning experiences and combines active learning, experimental and guided discovery learning, inquiry learning, problem-based learning, project-based learning» (Playing in a new way, studying in a different way, 2018; Roma, 2020, p. 72-73).

The integrative approach of «learning through play» focuses primarily on the teacher's use of any objects and materials from the environment to create a playful situation, but the basic means by which playful methods acquire their special educational and developmental capabilities are LEGO bricks. Let's focus on the general characteristics of LEGO bricks resources for the comprehensive development of children in educational institutions of Ukraine.

In accordance with the Memorandum of Understanding between the Ministry of Education and Science of Ukraine and the LEGO Foundation on cooperation in education and science, in order to provide quality and sustainable support for the implementation of the New Ukrainian School Concept, the LEGO Foundation has supplemented the educational environments of educational institutions with Six Bricks and LEGO Play Box sets. The LEGO game sets were able to implement the principles of the State Standard of Primary Education: the value of childhood, the joy of learning, and the development of the child's personality (State Standard of Primary Education in Ukraine, 2018). LEGO constructors have become universal technologies in the educational process of the NUS and have enabled teachers to explain educational material to younger students in a clear and accessible way, to develop critical thinking skills, speech, memory, attention, and the ability to work in a group, as the main method of teaching with LEGO is the principle of «learning through action» (Six bricks in the educational space of the school, 2018).

LEGO Education has offered the Ukrainian educational community new opportunities and practice-oriented tools for learning through play, which ensure the continuity of the educational approach throughout the entire period of study, starting from preschool. Such solutions stimulate the natural curiosity of each student, help develop children's self-confidence and ensure the formation of competencies that will be necessary in the future.

According to N. Sirant, the prospect of using LEGO technologies in the educational process is due to its high educational potential: multifunctionality, technical and aesthetic characteristics, and use in various play and learning areas. The use of LEGO technologies will take the educational process to a new level (Sirant, 2020, p. 173).

According to A. Rakhmanina, by using LEGO educational sets in the classroom, teachers can teach children to cooperate and interact in a team, develop communication and critical thinking skills. In addition, students learn to set goals for themselves and find real ways to achieve them by applying cognitive skills and information retrieval, rather than reproducing the algorithm of actions proposed by the teacher (Rakhmanina, 2021, p. 208).

In N. Bibik's research, it is noted that «game activity is not artificially separated from the holistic educational process of the primary level», and the game «is not considered autonomously, but on the basis of integration with other activities and organisational forms with their interpenetration: educational and labour, educational and sports, leisure, etc.» (Bibik, 2022, p. 83).

The most commonly used game sets in primary school lessons are Six Bricks (the so-called «6 bricks»), which are part of the LEGO DUPLO set. As O. Roma rightly notes, «the LEGO constructor «grows» with the child», that is, children are first introduced to LEGO DUPLO (Six Bricks) and gradually get acquainted with LEGO SYSTEM (Roma, 2020, p. 72-73).

In order to study the effectiveness of the use of LEGO constructors, we conducted a survey among primary school teachers of lyceums in Kolomyia (Ivano-Frankivsk region) using empirical and statistical research methods. Based on the results of the survey, it was concluded that teachers most often use LEGO DUPLO («Six Bricks») in the educational space of the NUS (Fig. 1).

Fig. 1. The results of a survey of primary school teachers in Kolomyia on the use of LEGO sets in the educational process

According to the survey results, the use of Six Bricks in the educational process of primary school enables younger students to acquire emotional, social, creative, cognitive and physical development. We agree with the opinion of the compiler of the manual «Six Bricks in the educational space of the school» O. Roma that ««Six Bricks» is a practical tool and an effective means of implementing game and activity-based teaching methods in primary school it is not a fixed set of tasks and instructions, but an open system that encourages students to make discoveries, explore, experiment, look for their own answers to problem situations, set goals and develop an action plan, create and improvise to their heart's content» (Six bricks in the educational space of the school, 2018).

According to our observations of the educational process in primary schools in Kolomyia, «Six Bricks» exercises develop the skills of primary school children related to their perception of the world around them through sensory systems: visual-spatial perception; visual memory and recognition; auditory recognition and memory; touch recognition; fine motor skills; and coordination of children's movements. All of these visual recognition skills are necessary to prepare for formal learning of the Ukrainian language, Math, the integrated course «I Explore the World», and Art. The effectiveness of LEGO in the NUS educational space has been proven by time and the experience of European countries.

Teachers, methodologists, scientists, and trainers have described the possibilities of using LEGO in primary school. According to the results of the study, the majority of teachers - our respondents - indicated in their questionnaires that the didactic possibilities of using LEGO sets are most effective in the lessons of the integrated course «I Explore the World» and Math (Fig. 2).

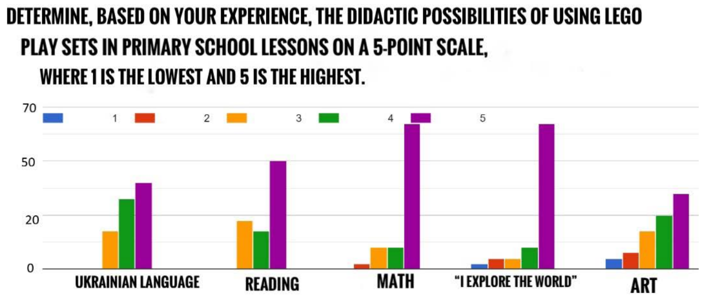

Fig. 2. The results of a survey of primary school teachers in Kolomyia on the didactic possibilities of using LEGO sets in the classroom

Teachers said that they usually use LEGO in primary school lessons to develop the cognitive sphere and emotions of younger students: memory («Memorise» exercise), thinking («Build with a cover»), sensation («Sorting – Folding»), perception («Skip the count»), attention («Understand each other», «Copy», «Spy game»), imagination («Build what you can», «Patterns», «What is it?»); development of organisational skills: working in a team («High Tower»), in small groups («Artists»), looking for a common solution («Skilful Fishermen»), working independently (Create - Finish), negotiating («Build without stapling»), respecting the opinion of others («Responding with bricks»), the ability to cooperate («The non-existent animal»), being proactive («Barriers»), communicating with classmates («Bricks with character»); competences: mathematical, language, natural, environmental, cultural, social, etc.

To develop competencies in the language and literary area of primary school education, the competency-based learning methodology «Six Bricks», «Playing in a New Way to Learn Differently» and other methodological guides provide exercises for learning the letters of the alphabet, word composition, stress, sound-letter analysis of a word, vowels and consonants, word structure, apostrophe, rules for writing dialogue, sentence structure, parts of speech, composing text, descriptions, etc.

The use of LEGO SYSTEM in the educational process of the New Ukrainian School is seen as a means of supporting creative thinking and developing coherent speech of younger students. This construction set has more potential for play and more opportunities for use in primary school lessons.

In the study, David Gauntlett describes the LEGO SYSTEM and its importance in the educational space: "1. A connecting set of parts: connections arise easily, sometimes unexpectedly. 2. Low initial level of skills. 3. An environment for mastery. 4. The ability to create something where there was nothing before. 5. An open system with endless possibilities. 6. Belief in the potential of children and adults and their natural imagination. 7. Belief in the value of creative play: respect for play as a powerful tool for learning and development. 8. A supportive environment: different ideas can be tried and experimented with, but without negative consequences, usually one good idea leads to another. 9. The LEGO system grows with the person: from the smallest child to the adult user. 10. The LEGO system also extends beyond the individual: at all levels of interaction with LEGO, from Duplo® to the AFOL LEGO world, LEGO bricks are a social tool that fosters connection and collaboration" (Gauntlett, 2014). As our observation of the educational process in primary schools in Kolomyia has shown. Kolomyia, these characteristics are taken into account by local teachers. In particular, they noted that the LEGO SYSTEM construction set provides more opportunities for use in the education and development of younger students, the sets contain small parts of different sizes, shapes, colours and plates. Important elements of the set are personalised figures with which students can recreate the plot of a fairy tale, story, fable, etc.

The formation of junior schoolchildren's mathematical competence in the NUS educational process is realised through the development of thinking, the ability to recognise and model processes and situations from everyday life that can be solved using mathematical methods, as well as the ability to make informed choices. One of the means of implementing the tasks of mathematical education in primary school is LEGO DUPLO – «Six Bricks» and LEGO SYSTEM. The effectiveness of their application was studied by N. Volovenko, T. Zaporozhchenko, K. Myroshnychenko, K. Romanenko, H. Svyrydenko, T. Fefilova. Scientists advise to consider the use of LEGO constructors along the following content lines: «Numbers, actions with numbers. Quantities.»: formation of numbers and their names, comparison of numbers, composition of numbers, acquaintance with arithmetic operations, permutational and connecting laws of addition, establishing the relationship between parts and the whole; «Geometric shapes»: orientation on the plane and in space, modelling geometric shapes; «Expressions, equations, inequalities»: expressions, relations of equality and inequality; «Working with data»: to build bar and line graphs; «Mathematical problems»: creating models for problems, etc.(Playing in a new way, studying in a different way, 2018; Zaporozhchenko, & Myroshnychenko, 2023; Romanenko, & Volovenko, 2020).

The modern educational space of the NUS provides for the cross-cutting integration of seven educational areas of the State Standard of Primary Education, including: language and literature, mathematics, natural science, technology, informatics, social and health, civic and historical education. The use of LEGO DUPLO – «Six Bricks» and LEGO SYSTEM is possible in all educational fields and forms of the educational process, including the integrated course «I Explore the World» (Fig. 3).

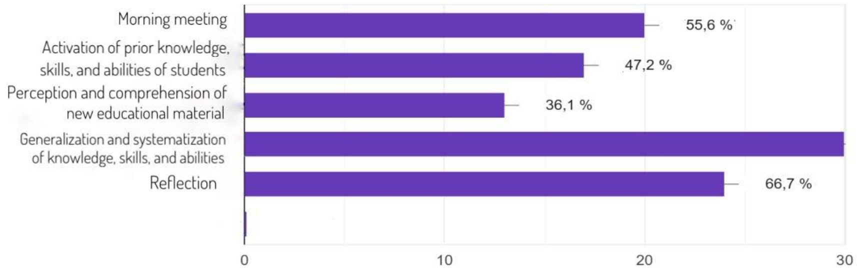

Fig. 3. Results of a survey of primary school teachers in Kolomyia regarding the use of LEGO play sets in lessons of the integrated course «I Explore the World»

As the respondents noted, LEGO technologies can be effectively used in lessons during morning meetings, for organizing educational and research activities; for updating basic knowledge and life experience of students; for perceiving and understanding educational material; for generalizing and systematizing students' knowledge, skills and abilities; for reflection, etc. Most often, in the lessons "I explore the world" teachers of Kolomyia use LEGO technologies for generalizing and systematizing knowledge - 83.3%, for reflection - 66.7%, during morning meetings - 55.6%, for updating basic knowledge, skills and abilities - 47.2%, for perceiving and understanding new educational material - 36.1% (Fig. 3). LEGO technologies make it possible to organize both frontal work of younger schoolchildren aimed at studying selected topics and various subjects within the classroom system, as well as independent creative work and a project-based form of organizing classes.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

The educational process of the New Ukrainian School is increasingly using the latest modern methods, techniques, tools and technologies. Today, child-centredness and the joy of a child's exploration of the world around them are important for the implementation of any educational reforms. The use of LEGO in the educational process of primary school allows the teacher to reveal the cognitive capabilities of each student who is the subject of the educational process. It has been proven that the use of LEGO is effective in the development of speech, mathematics, science, technology, social and health, civic and historical competencies, and that «learning through play» is possible with LEGO. In addition, LEGO technologies in primary school lessons activate the development of memory, attention, imagination, logical thinking, and help students to establish patterns. According to the results of our study, primary school teachers in Kolomyia effectively use LEGO technologies in the classroom during morning meetings, to organise learning and research activities; to update students' background knowledge and life experience; to perceive and comprehend educational material; to summarise and systematise students' knowledge, skills and abilities; to reflect, etc. Most often, teachers use LEGO technologies in «I Explore the World» lessons to summarise and systematise knowledge (83.3%), for reflection (66.7%), during morning meetings (55.6%), to update basic knowledge, skills and abilities (47.2%), and to perceive and comprehend new learning material (36.1%). LEGO technologies make it possible to organise both frontal work of younger students aimed at studying selected topics and various subjects within the classroom system, as well as independent creative work and project-based learning. The organisation of educational and gaming activities requires the teacher to have appropriate methodological competence and high skill to find any teaching method in the LEGO game. This aspect will be the subject of our further research.

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УДК 37.02

РОБОТА З МЕДІАТЕКСТАМИ ЯК ЧИННИК МОВЛЕННЄВОГО РОЗВИТКУ ЗДОБУВАЧІВ ШКІЛЬНОЇ ОСВІТИ

Анотація. У статті розкриваються особливості роботи здобувачів шкільної освіти з медіатекстами, дається їх опис та класифікація. Наголошується, що організація систематичної роботи з медіатекстами на уроках української мови сприяє розвитку мовлення та формує основи медіаграмотності, закладає основи медійної культури.

Автор вказує, що впровадження медіаосвіти в освітній процес сприяє формуванню медіаграмотності здобувачів освіти, що виступає невід'ємною складовою підготовки зростаючої особистості до життя в інформаційному медіапросторі та позитивно впливає на розвиток критичного мислення, загальної культури спілкування, налагодження соціокультурних відносин, удосконалення міжособистісної комунікації.

Відзначається, що стан розвитку мовного середовища нашої країни породжує нагальну потребу у формуванні мовної особистості, яка прагне до реалізації власних інтелектуальних можливостей, творчого потенціалу, компетентності та конкурентоспроможності. Звідси виникає об'єктивна необхідність вдосконалення інформаційно-дидактичних засад процесу навчання мови в сучасному закладі загальної середньої освіти.

Вказується, що використання медіазасобів на уроках української мови, допомагає активізувати навчально-пізнавальну діяльність, дозволяє урізноманітнювати освітній процес, підвищує якість та результативність уроку, робить його яскравішим, більш емоційно та інформаційно насиченим й привабливим для учнів.

Метою статі є розкриття значимості роботи з медіатекстами для мовленнєвого розвитку здобувачів шкільної освіти шляхом застосування інноваційних медійних ресурсів в освітній процес сучасного закладу освіти.

Під час роботи над організацією й проведенням дослідження використовувався комплекс загальнонаукових методів. Застосування методу контент-аналізу під час узагальнення інформації з психолого-педагогічної літератури, сприяло визначенню провідних аспектів проблеми, розкриттю сутності базових понять. Емпіричні методи використовувалися під час опитування та бесід з педагогами щодо їхньої готовності до реалізації ідей, форм, моделей та технологій роботи з медіатекстами для покращення розвитку мовлення школярів.

Ключові слова: медіатекст, мовлення, мовленнєвий розвиток, медіаосвіта, медіаграмотність, медіакультура, шкільна освіта, розвиток.

WORKING WITH MEDIA TEXTS AS A FACTOR IN THE SPEECH DEVELOPMENT OF SCHOOL STUDENTS

Abstract. The article reveals the features of working with media texts among school students, providing their description and classification. It emphasizes that organizing systematic work with media texts during Ukrainian language lessons promotes speech development and forms the foundations of media literacy, laying the groundwork for media culture.

The author notes that the integration of media education into the educational process contributes to the development of students' media literacy, which is an integral component in preparing the younger generation for life in the informational media space. It positively influences the development of critical thinking, general communication culture, the establishment of sociocultural relationships, and the improvement of interpersonal communication.

It is highlighted that the current state of the linguistic environment in Ukraine creates an urgent need to shape a linguistic personality who strives to realize their intellectual capabilities, creative potential, competence, and competitiveness. Hence, there is an objective necessity to improve the informational and didactic foundations of the language teaching process in modern secondary education institutions.

It is stated that the use of media tools in Ukrainian language lessons helps to activate educational and cognitive activities, diversify the educational process, enhance the quality and effectiveness of lessons, and make them more vibrant, emotionally and informationally rich, and engaging for students.

The purpose of this article is to highlight the importance of working with media texts for the speech development of school students through the application of innovative media resources in the educational process of modern educational institutions.

During the organization and implementation of the research, a set of general scientific methods was used. The use of content analysis in summarizing information from psychological and pedagogical literature contributed to identifying the key aspects of the issue and revealing the essence of basic concepts. Empirical methods were applied during surveys and interviews with teachers to assess their readiness to implement ideas, forms, models, and technologies for working with media texts to improve students' speech development.

Keywords: media text, speech, speech development, media education, media literacy, media culture, school education, development.

INTRODUCTION

The problem formulation. The information society redefines the process of communication and interaction. The informatization of society significantly influences the development of the education system, setting new goals and tasks while changing the requirements for the literacy and competence of learners.

The process of informatization broadens the scope of human communication and interaction. The evolution of information exchange tools—ranging from oral and written speech to book culture and digital communication—demonstrates that means of communication serve as a driving force behind the progress of civilization. Modern trends in the informatization process highlight new features of communication tools. They encompass a wide range of print and electronic media, becoming dynamic, interactive, dialogical, contextual, alternative, and individualized.

Analysis of recent research and publications. In Ukrainian science, the problems of media education are studied by researchers such as O. Baryshpolets, O. Volosheniuk, M. Gabor, V. Ivanov, L. Naidionova, I. Slysarenko, and M. Tymoshyk. Researchers O. Pometun and O. Shunevych focus on modern strategies for interpreting educational texts, while N. Stavytska and M. Kutsenok explore speech development.

Scientific investigations into the implementation of media education for primary school students are conducted by O. Volosheniuk, S. Romaniuk, and N. Siranchuk. Researchers I. Ivanova, I. Chervinska, and O. Shkurenko study the specifics of forming the media environment within educational institutions. A. Kozhanova examines the process of developing information-processing skills and the quality criteria for media messages. International scholars such as R. Hobbs, R. Kubey, J. Gon, K. Ermelen, and B. Sherb investigate media education, media studies, and their influence on students' skills necessary for effective interaction in modern educational spaces.

The research of L. Naidionova and H. Onkovych (Naidionova & Onkovych) on general secondary education institutions (GSEIs) in media education development shows that most students struggle with analyzing and synthesizing textual messages, as well as critically evaluating received information. This confirms our hypothesis about the insufficient level of media education and media resource utilization, including media texts, among school students.

Specifically, researcher L. Naidionova emphasizes the «invaluable role of media resources in realizing personal potential, improving learning outcomes, developing critical thinking, and enriching the inner world» (Naidionova). Similarly, it is stated that «media literacy is one of the key modern life skills and that school education is one of the fundamental tools for increasing media literacy in society» (Ivanov, 2016). We agree with scholars regarding the relevance of media education and media literacy for today's youth.

The introduction of media education and the formation of media literacy among students are integral to modern Ukrainian education. This positively influences the development of critical thinking, enhances communication culture, fosters sociocultural relations, and improves interpersonal communication.

An analysis of scholarly sources reveals a shared understanding among researchers regarding the crucial role of contemporary media education in fostering effective interaction within the educational process and enhancing students' monologic speech skills. However, despite the available body of research, certain dimensions of developing media literacy among school students—especially in the context of organizing work with media texts during Ukrainian language lessons—remain underexplored, thereby underscoring the significance of this study.

THE AIM AND RESEARCH TASKS

The study aims to summarize research on school media education and media literacy, analyze the experience of implementing innovative media resources in the educational process, and reveal the significance of working with media texts for students' speech development.

RESEARCH METHODS

A set of general scientific methods was used in organizing and conducting the study. Content analysis facilitated the synthesis of information from psychological and pedagogical literature, helping define the key aspects of the problem. Empirical methods were applied during surveys, the examination of legal and regulatory frameworks, and interviews with educators regarding their readiness to implement ideas, forms, models, and technologies for working with media texts to develop students' speech.

RESULTS OF THE RESEARCH

The modern development of media education prepares individuals for life in an information society through acquired knowledge, media literacy, and media culture. Media education meets the needs of contemporary pedagogical theory and practice in personal development by expanding the range of teaching methods and forms.

Media education is understood as the process of acquiring knowledge and skills through the use of innovative media resources. It cultivates effective forms of media communication, promotes the development of communication and creative abilities, fosters critical thinking, and enhances intellectual capacity. A high-quality media education serves as a foundation for achieving media literacy, contributing to the holistic formation of a media-competent individual—one who is capable of interpreting, analyzing, and critically evaluating media content, as well as working confidently with various types of media texts.

One of the traditional media education tasks for modern students is working with media texts. This type of educational activity includes viewing and analyzing different media texts, determining their genre affiliation and artistic specificity, discussing educational and value-based aspects, identifying shortcomings, and reviewing media materials. Engaging in the analysis of media texts fosters critical thinking, the development of artistic and aesthetic abilities, the acquisition of media culture, and students' speech development.

In this context, it is worth emphasizing the reflections of researcher I. Chereshniuk, who states that «in modern linguistic science, it is generally recognized that the primary unit of communication is an oral or written statement – a text that represents the highest level of the language system. Essential and irreplaceable components of the educational process in Ukrainian language lessons include text as a monologue, text as a dialogue purposefully organized by the teacher: literary text-reader, reader-author, literary text-author-reader» (Chereshniuk, 2016).

Summarizing the views of media researchers (O. Volosheniuk, A. Yefimenko, V. Ivanov, O. Ishutina, O. Mokrohuz, etc.), we can define the concept of a media text.

The concept of a media text (from the Latin mediatextus, meaning "intermediaries" and "fabric" – suggesting interconnection, weaving, or combination) emerged in the 20th century as a result of the swift advancement of mass communication technologies. With the rise of radio, television, and the Internet, new forms of texts began to replace traditional print formats. According to Yefimenko and Ishutina (2021), a media text (also referred to as a media construct) is any message conveyed through various media formats, including newspaper articles, television programs, video clips, and films. Yatsimirska (2007) further defines a media text as any message produced within a specific media type or genre and commonly used in mass communication. The term covers a broad spectrum of related categories such as mass communication texts, media texts, journalistic and publicistic writing, newspaper and teletexts, advertising and PR content, and internet-based texts.

Thus, «a media text is an integrative multi-level sign that unites various semiotic codes (verbal, non-verbal, media) into a single communicative whole and demonstrates the fundamental openness of the text on the content-meaning, compositional-structural, and symbolic levels» (Kozak, 2012).

A media text is a text that functions in mass media and digital space, including news, social media, blogs, advertisements, interviews, video content, etc. It combines verbal and non-verbal components (images, audio, video) and significantly influences the speech development of learners.

A media text is an oral or written work of mass informational activity and mass communication. The essence of a media text lies in its content, expressed through speech to influence and persuade. Behind a media text stands a linguistic personality, their worldview, intellectual level, and cognitive ability. Working with media texts is based on modern linguodidactic approaches, including discourse analysis, stylistic analysis, and the development of critical thinking.

Psychological and pedagogical studies confirm that media texts contribute to the formation of communicative competence and information culture and effectively influence the development of monologic speech in learners. The study and synthesis of scientific literature, along with familiarization with the practical experience of media educators on this issue, have enabled the characterization of media texts and the identification of leading forms and methods of working with them.

In the media space, different types of texts are distinguished and classified according to the following criteria:

Visual texts – texts that students read (printed or written text).

Auditory texts – texts that students listen to (audio performances, audiobooks, podcasts).

Audiovisual texts – texts that students both listen to and view (comics).

«All types of texts are a continuous source of information for learners, so it is necessary to integrate media texts into text work both at the level of critical comprehension and at the level of creating personal media products» (Yefimenko, Ishutina, 2021).

As a fundamental category of media culture, the media text serves as the foundation for shaping students' value systems, which include:

- Concepts of happiness, well-being, and goodness.
- Universal values (health, life, family, education, justice, equality, loyalty, diligence).
- Personal values (native language, culture, traditions, homeland).
- Collective values (solidarity, mutual assistance, synergy, tolerance).

Analysis of media texts is closely related to the following concepts:

1. *Media literacy* – the ability to analyze and synthesize spatial-hour reality, the ability to «read» media text;

2. *Media infusion* - the infusion of media texts onto the audience in the field of education and education, the development of knowledge, the formation of behavior, views, reactions, voices, increased information, etc.;

3. *Interpretation of media text* – the process of translating the media message from my participant in the communication and his interpretation;

4. *Media perception* - perception of media reality, sensing the thoughts of the authors of its media text.

It is advisable to analyze them in more detail and model them in the figures.

1. **Media Literacy**. Media literacy refers to the ability to analyze and synthesize spatial and temporal realities presented through various media forms. It encompasses the skills necessary to «read» a media text critically, allowing

individuals to discern the underlying messages, intentions, and contexts. This skill is essential in today's information-rich environment, where media plays a significant role in shaping perceptions and understanding of the world.

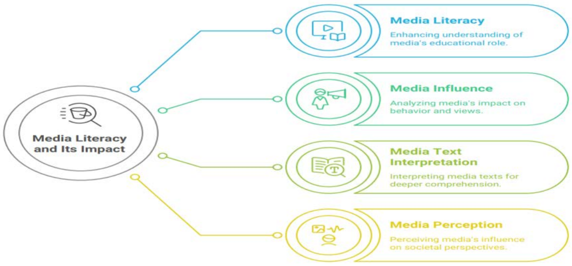

Figure 1. Media Literacy

2. **Media Influence**. Media influence pertains to the impact that media texts have on audiences, particularly in the realms of education and upbringing. This influence extends to the development of consciousness, the formation of behaviors, views, and reactions. Media can shape feedback mechanisms and facilitate the dissemination of information, thereby playing a crucial role in societal dynamics. Understanding media influence is vital for recognizing how media can affect individual and collective consciousness.

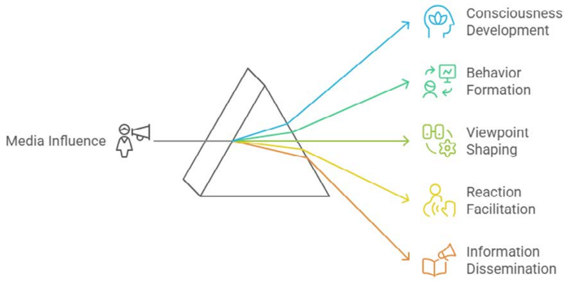

Figure 2. Media Influence

3. **Media Text Interpretation**.The process of media text interpretation involves translating a media message into the language of the perceiving individual. This interpretation is subjective and can vary widely based on personal experiences, cultural backgrounds, and cognitive frameworks. The ability to interpret media texts effectively is a critical component of media literacy, as it allows individuals to engage with content meaningfully and thoughtfully.

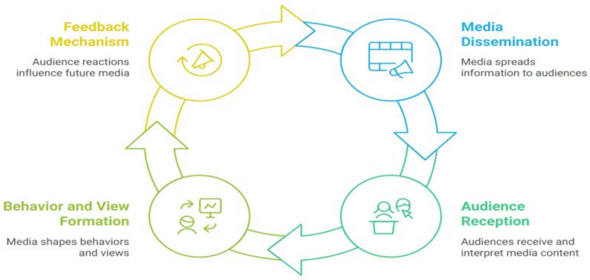

Figure 3. Media Text Interpretation

4. **Media Perception**.Media perception encompasses the feelings and thoughts of both the audience and the authors of a media text. It reflects how individuals perceive media reality and the emotional responses elicited by media content. Understanding media perception is essential for comprehending the broader implications of media consumption, as it influences how messages are received and understood by different audiences. In conclusion, the interplay between media literacy, media influence, media text interpretation, and media perception is complex and multifaceted. By developing a deeper understanding of these concepts, individuals can navigate the media landscape more effectively, fostering critical thinking and informed engagement with media texts.

The characteristics of a media text include its form of existence, verbal nature, content completeness, authorship, and the presence of a title. Media texts can be considered as the result of the collective activities of individuals and organizations, including political entities engaged in generating and disseminating information, rather than merely as separate linguistic works.

When working with media texts, linguists focus on «important questions for understanding information processes, such as the interpretative properties of media texts, their role in constructing an informational worldview, culturally specific and ideological factors influencing the production and perception of mass media texts, and linguistic-media techniques for creating images and stereotypes» (Yatsymirska, 2007).

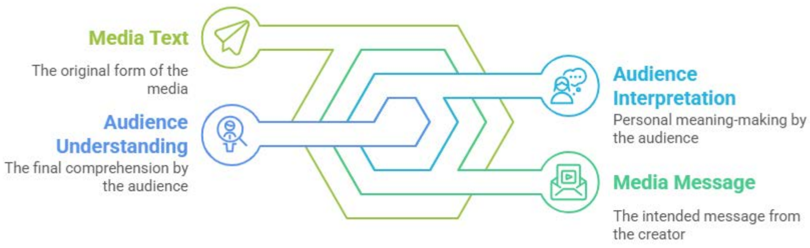

Figure 4. Media Perception

Educators are offered several methods of educational activities when working with media texts in Ukrainian language lessons in general secondary education institutions (according to the six levels of thinking formulated by American psychologist B. Bloom, known as Bloom's Taxonomy) (Bloom, 1984). The psychologist arranged cognitive skills in a hierarchy from simple to more complex: knowledge, comprehension, application, analysis, synthesis, and evaluation.

According to these levels of thinking, educators apply the following algorithm:

Reproductive. Involves students retelling a media text immediately after viewing it in the classroom or independently to convey its content to listeners.

Associative. Reflects the perception of a media text through personal emotions, memories, and experiences.

Explanatory. Focuses on aspects of the media text that are difficult to understand, helping to form judgments about the text as a whole or its parts.

Analytical. Includes an analysis of the structure of the media text, linguistic and artistic features, perspectives of media creators and consumers (critics, viewers), and the musical and sound accompaniment of the media text.

Classification. Determines the place of a work in historical, economic, social, and political contexts, its genre, ethical and aesthetic norms (the presence and appropriateness of violence, explicit scenes, etc.), and psychophysiological level (the influence of the «emotional pendulum»: alternating between emotional comfort and shock).

Evaluative. Involves students assessing the advantages of a media text based on personal, moral, or formal criteria.

In today's world, attitudes toward language as a means of everyday communication and information acquisition are changing dramatically. The state of linguistic space development in our country creates an urgent need to shape a linguistic personality striving for intellectual realization, creative potential, competence, and competitiveness. Hence, there is an objective necessity to improve the didactic foundations of the language learning process in modern general secondary education institutions.

The issue of developing linguistic personality during school education is a complex and multifaceted task that requires theoretical understanding, the search for new methods and approaches, the promotion of constructive ideas, and their experimental verification. The methodology of teaching the Ukrainian language involves the active use of media texts as an essential tool for developing students' speech. Working with such texts contributes to the formation of speech skills, vocabulary expansion, critical thinking development, and media literacy.

The methodology of working with media texts includes several stages:

Analyzing the media text by identifying its topic, main idea, and compositional structure. A detailed analysis of linguistic means (lexicon, syntax, stylistics, and manipulative techniques within the media text). Discussing the media text's impact on the audience and identifying fake news.

Text modeling. Involves creating headlines, short annotations, and advertising slogans, reformatting texts considering different target audiences. This is seen as an effective practice for editing texts to achieve accuracy, logic, and expressiveness.

Developing monologic speech by writing personal materials, blog posts, reviews, exercises in comparison and text transformation (e.g., changing the format from news to a report or interview), and using multimedia tools to create personal media products (video blogs, podcasts, presentations).

A well-thought-out selection of texts and tasks, along with incorporating each lesson into a structured system of working with texts, are the conditions that allow the creation of a favorable speech-development environment. This ensures the formation of monologic speech and enhances a person's linguistic intuition. As researcher I. Chervinska emphasizes, «it is important to select text materials for analysis in lessons that promote moral-aesthetic, patriotic, and intellectual development, evoke the ability for reflection, empathy, and engagement, and encourage conscious activity and creative interaction» (Chervinska, 2024).

Media text analysis is a key stage in the process of developing students' speech. The main criteria for media text analysis include:

Content analysis of the media text, which identifies the main ideas, key theses, and factual accuracy of the information.

Structural analysis of the media text, which involves identifying compositional features of the text (title, lead, main part, conclusions).

Linguistic analysis of the media text, which examines vocabulary, syntax, stylistic devices, and manipulative techniques.

Functional analysis of the media text, which determines the level of influence on the audience and analyzes the target orientation.

Critical analysis of the media text, which aims to identify manipulative techniques, detect fake news, and assess the objectivity and reliability of information.

Working with media texts plays a crucial role in developing speech competencies as it improves the ability to analyze information and recognize manipulations, enhances oral and written communication skills in the modern media space, fosters critical thinking and media literacy, and stimulates students' creative activity in communication.

Thus, it is worth noting that students' engagement with media texts contributes to speech development by:

Enriching vocabulary. Working with different types of media texts exposes students to new terms, neologisms, idiomatic expressions, and stylistic devices, enriching their speech.

Developing coherent speech. Performing practical tasks such as retelling and commenting on media texts improves the ability to construct logical and structured statements.

Enhancing communicative competence. While working with media texts, students learn to adapt their speech to different communicative situations, adjust intonation, and determine the emotional tone of a text.

Increasing the speed and quality of information perception and comprehension. Analyzing different types of media texts fosters critical thinking and rapid information processing skills.

Improving oral communication skills. Discussing news, analytical, and social texts encourages students to express their opinions with reasoning, build evidence-based arguments, and select effective examples.

Applying linguistic norms in practice. Analyzing the grammatical and stylistic features of media texts helps reinforce literary language norms.

Indicators of students' speech development through media texts include: lexical enrichment (using new words and terms in speech), grammatical accuracy (correct sentence structure, logical organization); structured statements (consistent presentation of thoughts), text analysis and critical comprehension (ability to distinguish facts from manipulative techniques), argumentation skills (ability to logically substantiate one's point of view), communicative adaptability (ability to adjust speech to different situations).

The study of media texts is integrated into Ukrainian language lessons through various student activities: working with news headlines and analyzing them, identifying manipulative techniques, and predicting text content. Creating short media texts involves writing news notes and social media posts while adhering to linguistic norms. To consolidate theoretical knowledge, students can complete the exercise «Creating a Headline,» where they receive a news text and propose headline options, explaining their choices.

Discussions based on media texts are conducted through interactive student interactions in pairs. They analyze news, advertisements, and social media posts regarding their truthfulness and emotional tone. One possible exercise is «Video News Analysis,» where students watch a short video segment, formulate the main idea, and determine stylistic features.

One of the most engaging types of activities in Ukrainian language lessons using media education resources is working with advertisements. Students are encouraged to identify the means of influencing others' consciousness by creating their own advertising texts while considering ethical norms. The exercise «Advertising Without Manipulation» is suggested. This type of activity involves students creating an advertisement for a product or event without using exaggeration or emotional pressure.

An effective method for developing students' speech skills is analyzing comments on social media, identifying constructive and manipulative criticism, and forming a culture of online communication. To reinforce these skills, students can complete the exercise «Writing a Social Media Post». In this task, they write a short post about an event while adhering to the rules of speech culture. Another engaging group activity for students is the game «Fact or Manipulation.» During this game, participants analyze several news headlines to determine the presence of manipulative techniques.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, it is worth noting that working with media texts is an effective factor in developing students' speech skills. The use of methodologically sound techniques contributes not only to mastering language norms but also to the formation of media competence, which is a necessary condition for successful learning and social adaptation of students in the modern information society.

The use of media texts facilitates the broader expression of students' creative potential and helps them showcase their abilities. Media texts simultaneously activate several of the student's sensory analyzers (auditory, visual), promoting better comprehension and retention of educational material.

Therefore, the use of media tools in Ukrainian language lessons helps to activate educational and cognitive activities, diversifies the educational process, improves the quality and effectiveness of lessons, and makes them more vivid, emotionally and informationally rich, and attractive to students. Further research may focus on developing interactive methods for working with media texts in Ukrainian language lessons.

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РЕАЛІЗАЦІЯ ІДЕЙ ІНТЕГРОВАНОГО НАВЧАННЯ В ОСВІТНЬОМУ ПРОЦЕСІ СУЧАСНОГО ЗАКЛАДУ ОСВІТИ: РЕАЛІЇ ТА ВИКЛИКИ

Анотація. Автори розкривають особливості реалізації ідей інтегрованого навчання в освітньому процесі сучасних закладів вищої освіти, аналізують реалії впровадження технологій інтегрованого навчання, визначають провідні завдання та функції інтеграції.

Вказують, що в педагогіці інтегроване навчання розглядається як освітній процес, у якому забезпечується взаємозв'язок між різними навчальними дисциплінами, формами діяльності або змістовими лініями з метою формування цілісної картини світу в здобувачів освіти.

Метою дослідження є розкриття особливостей реалізації ідей інтегрованого навчання в освітньому процесі сучасного закладу освіти, описати реальний стн та визначити основні виклики щодо оптимізації цього процесу.

До основних переваг інтегрованого підходу автори відносять забезпечення цілісності знань, підвищення навчальної мотивації, формування міждисциплінарних компетентностей, підготовку до розв’язання реальних життєвих проблем, розвиток комунікативних, соціальних і креативних навичок.

У статті наголошується, що інтеграція освітнього процесу є не лише дидактичним прийомом, а й філософією навчання, що відображає складність і взаємозв’язок реалій життя та практичного досвіду. Ідеї інтегрованого навчання посідають важливе місце в сучасному освітньому просторі, зумовленому потребами суспільства в компетентнісно орієнтованих, креативних, критично мислячих особистостях.

Ключові слова: інтеграція, освітній процес, інтегроване навчання, форми інтеграції, інтеграційний підхід, міжпредметна інтеграція.

IMPLEMENTATION OF IDEAS OF INTEGRATED LEARNING IN THE EDUCATIONAL PROCESS OF A MODERN EDUCATIONAL INSTITUTION: REALITIES AND CHALLENGES

Abstract. The authors reveal the features of implementing the ideas of integrated learning in the educational process of modern higher education institutions, analyze the realities of implementing integrated learning technologies, and determine the leading tasks and functions of integration.

They indicate that in pedagogy, integrated learning is considered as an educational process in which the relationship between different academic disciplines, forms of activity or content lines is ensured in order to form a holistic picture of the world in the student.

The purpose of the study is to reveal the features of implementing the ideas of integrated learning in the educational process of a modern educational institution, to describe the real situation and to identify the main challenges in optimizing this process.

The authors include ensuring the integrity of knowledge, increasing learning motivation, forming interdisciplinary competencies, preparing for solving real life problems, and developing communicative, social and creative skills among the main advantages of the integrated approach.

The article emphasizes that the integration of the educational process is not only a didactic technique, but also a philosophy of learning that reflects the complexity and interconnectedness of reality. The ideas of integrated learning occupy an important place in the modern educational space, determined by the needs of society in competence-oriented, creative, critically thinking individuals.

Keywords: integration, educational process, integrated learning, forms of integration, integration approach, interdisciplinary integration.

INTRODUCTION

The problem formulation. The relevance of the idea of integrated learning today is indisputable. Its successful implementation opens up boundless opportunities for all participants in the educational interaction to acquire high-quality and competitive education. A high level of education is an essential guarantee for a young person to independently achieve their life goals, a source of creative growth, and a means of self-assertion in society.

The urgency of the issue of finding rational ways to integrate various educational components in the process of acquiring the appropriate level of education is intensified by serious overload due to thematic similarity of materials, resource intensity, and the significant time required for their processing.

This provides grounds to assert that without integration, neither the progress of modern science nor civilizational development in general is possible. Scientific thought increasingly tends to unite separate, isolated objects and phenomena into a cohesive whole. In this context, integration is considered an important informational and didactic tool of the educational process, aimed at developing professional competencies and fostering a holistic perception of educational content across all components and practical elements. It is crucial to accept that education is not a one-time process, but a lifelong journey that does not end with the acquisition of a particular level of education.

Analysis of recent research and publications. Today, the issue of integration in the educational process of higher education institutions is being reconsidered due to the implementation of a competency-based approach to organizing and conducting classes, as well as the global digitalization of the educational environment.

The process of «integration» in its general scientific interpretation is characterized by interpenetration, consolidation, and unification of knowledge, which manifests in unity alongside opposite processes of differentiation and delineation.

The issue of applying integration in education is the focus of many academic studies. The methodological foundations of integration and integrated learning are presented in the works of S. Honcharenko, M. Ivanchuk, I. Kozlovska, Ya. Kmit, K. Levkivska, and Yu. Malovanyi.

THE AIM AND RESEARCH TASKS

To reveal the features of implementing the ideas of integrated learning in the educational process of modern educational institutions, describe the current state, and identify the main challenges to optimizing this process.

RESEARCH METHODS

The following methods were used during the research: analysis of scientific, methodological, and practical literature that reveals the essence of organizing integrated learning; analysis and synthesis – to specify existing technologies of integrated learning and to generalize and systematize them; interviews, surveys, and questionnaires of students; observation of the implementation of innovative integrated learning technologies in the educational process of modern educational institutions.

RESULTS OF THE RESEARCH

The term «integration» (from Latin *integratio* – whole) was introduced into scientific discourse in the 1960s by the English researcher H. Spencer. However, at that time, the concept only remotely reflected the essence and realities of educational processes, which are now described by the term «integration». Modern dictionaries define «integration» as «the unification into a single whole of previously isolated parts, elements, or components, accompanied by the complication and strengthening of connections and relationships between them» [6].

The term «integration» (from the Latin *integer* – whole) refers to the process of combining separate parts or elements into a whole. Translated from Latin, the term implies restoration, completion, and merging of different components into a coherent structure. The definition of «integration» comes from the Latin word «integratio», which means filling, or «integer» – whole. This concept has many definitions in the scientific literature. For example, in the Oxford University Dictionary, integration is considered as «the act or process of combining two or more parts in such a way that they function together» (Oxford Advanced Learner's Dictionary of Current Englishю Sixth Edition, 2000).

The concept of «integrated learning» is one of the key ideas in modern pedagogy and didactics, as it reflects trends toward interdisciplinary interaction, the development of an understanding of the interconnectedness of the surrounding world, and the cultivation of critical and systemic thinking in students. Considering the transformations in 21st-century education, the integration of knowledge is gaining particular relevance in the context of competency-based learning, interdisciplinary education, STEM education, project-based activities, and more.

In the philosophical sense, integration means the process of combining diverse elements to form a new quality. In pedagogy, integrated learning is viewed as an educational process that ensures the interconnection between various academic disciplines, types of activities, or content lines, aimed at forming a holistic worldview in the learner. «Integration is a process of interaction of elements (with given properties), accompanied by the establishment, complication and strengthening of essential connections between these elements on the basis of a sufficient basis, as a result of which an integrated object (holistic system) with qualitatively new properties is formed while preserving the individual properties of the original elements in its structure» (Kozlovska, 1999).

In scientific and pedagogical literature, many approaches exist to interpreting the essence of integrated learning. A synthesis of researchers' perspectives allows us to highlight several key aspects:

1. *Content Aspect* – integration of educational and didactic material from various educational components (e.g., integration of physics and mathematics, biology and chemistry, literature and history).
2. *Processual Aspect* – integration of methods, forms, and types of learning activities (e.g., combining lectures, experiments, and project work).
3. *Value Aspect* – formation of a holistic worldview, moral orientations, and social competencies in learners.
4. *Technological Aspect* – the use of educational technologies that involve interdisciplinarity: STEAM, CLIL, project-based learning, problem-based learning.

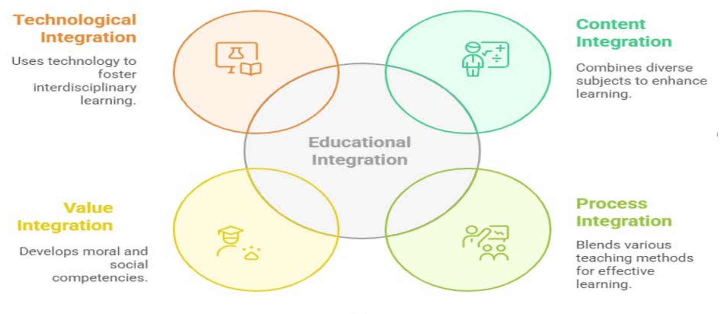

Figure 1. Educational Integration Framework

Integration can be implemented in various forms:

Interdisciplinary integration – the combination of knowledge from different educational components (for example, the project «*Urban Ecology*» may include elements of environmental science, computer science, biology, and mathematics).

Intradisciplinary integration – the alignment of topics and concepts within a single subject (for instance, in a literature course, students may study works that are thematically connected). Integration of knowledge and life experience – linking educational content with students' real-life experiences, which contributes to the development of practical skills.

Integrated learning performs the following functions:

Educational – promotes a deeper understanding of educational material through multifaceted analysis of problems.

Developmental – activates thinking, creative imagination, abilities for analysis, synthesis, comparison.

Educational – forms value orientations, social responsibility, tolerance;

Motivational – increases students' interest in learning through updating the content.

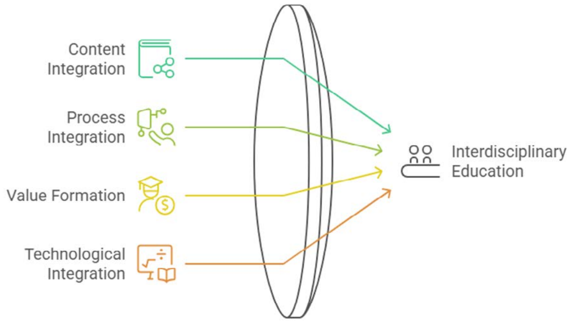

Figure 2. Unified Educational Approach

The main advantages of the integrated approach include ensuring the integrity of knowledge, increasing learning motivation, forming interdisciplinary competencies, preparing for solving real-life problems, developing communicative, social and creative skills.

However, it is worth noting that integration has certain challenges and limitations. The main ones include: the complexity of developing integrated programs, high requirements for the professional training of teachers, the risk of superficial mastery of the material, inconsistency of curricula of different disciplines. As Yu. Pryshupa notes, «Knowledge of practically all key disciplines is based on knowledge from other disciplines, and only a deep understanding of the complex of all disciplines can ensure work at the proper level» (Pryshupa, 2014).

So, integrated learning is a modern educational strategy aimed at overcoming the fragmentation of knowledge, developing a holistic worldview and competencies of the 21st century. Its implementation requires a systematic approach, appropriate training of teachers and adaptation of the educational environment to new conditions. Integration of the educational process is not only a didactic technique, but also a philosophy of learning that reflects the complexity and interconnectedness of reality. The ideas of integrated learning occupy an important place in the modern educational space, determined by the needs of society in competency-oriented, creative, critically thinking individuals. The implementation of these ideas in the educational process of educational institutions involves not only changing the content of learning, but also transforming pedagogical interaction, updating methods, forms and means of learning.

The main directions of implementing integrated learning in a higher education institution:

Inter-subject integration. One of the most common approaches that involves combining educational material from several subjects for a holistic consideration of phenomena and processes.

Use of integrated educational programs. Use of integrated educational programs as directions of implementation of integrated learning in higher education institutions. Integrated learning in higher education institutions (HEIs) is considered as a strategic direction of improving the educational process, which ensures interdisciplinary interaction, development of critical thinking, formation of complex professional and general cultural competencies. One of the key tools for implementing this concept is integrated educational programs, which provide a holistic vision of the educational material and contribute to the adaptation of graduates to the modern labor market. Integrated educational programs involve combining the content of several academic disciplines around a common topic, problem or practical task. This approach allows us to move away from fragmented assimilation of knowledge and ensure their deeper awareness, contributes to the formation of interdisciplinary thinking and teamwork skills.

Ways to implement integrated learning through the introduction of integrated educational programs into the educational process in higher education institutions may include:

1. Creating interdisciplinary courses by combining professional disciplines with courses in critical thinking, academic writing, and digital technologies that prepare students for comprehensive problem solving.

2. Project-based learning based on the integration of knowledge – students work on real cases using knowledge from different fields (for example, ecology + economics + law).

3. Integration of educational and research activities – implementation of educational programs that involve students in interdisciplinary research, startups, and innovation laboratories.

4. Joint programs with other faculties or universities – integrated master's or bachelor's programs at the intersection of specialties (for example, «bioengineering and business», «psychology in information technologies»).

5. Use of digital platforms for interdisciplinary interaction *Moodle, Google Workspace, Microsoft Teams, Miro*, etc. The main conditions for the integration of learning include the use of search, problem-based and creative methods, the formation of research skills, the development of oral speech, familiarization with culture and physical development. These conditions contribute to the integration process, including the integration of information, ways of knowing, interaction with the world, culture and objective phenomena.

The use of integrated educational programs in an educational institution requires flexibility in the organization of the educational process, updating the content of education, involving teachers from different fields of knowledge and readiness for pedagogical innovations. This approach not only meets the requirements of modern education, but also contributes to the training of competitive specialists who are able to act effectively in conditions of rapid change and interdisciplinary challenges.

One of the effective types of application of integrated learning is project and research activities. After all, educational projects as a means of implementing integration cover various subjects, contributing to the development of research, analytical, and communication skills. For example, the project «*Ecological Map of My City*» combines geography, biology, computer science, technology, and civic education. Project and research activities as a direction of integration in a higher education institution.

Project and research activities are one of the key directions of integration of the educational process in higher education institutions. Its implementation ensures the combination of theoretical knowledge with practical experience, contributes to the formation of interdisciplinary thinking, and the development of analytical, communicative, and organizational skills of students.

Project-based learning involves organizing the educational process around solving specific, often complex problems or tasks. Typically, students work in teams to create a work product, develop models, carry out social initiatives or technical developments. This format involves the involvement of knowledge from various disciplines (for example, computer science, economics, biology, ecology), which implements the principles of integrated learning.

Research activities at universities also play a significant role in the integration of education, science and practice. It allows to form skills in scientific analysis and critical thinking, to develop individual and collective responsibility for the results of work, to integrate students into the scientific and educational environment through participation in conferences, scientific circles, hackathons, and publication activities.

Involving students in project and research activities is often implemented through educational projects within disciplines that end with the defense of the work, interdisciplinary research projects with teachers and partners from business or the public sector, preparation of bachelor's and master's qualification works that have a practical or experimental component, participation in grant programs, innovation incubators and student scientific associations.

Thus, project and research activities contribute to the effective implementation of integrated learning, as they create conditions for combining different types of activities (educational, scientific, practical), integrate the content of educational programs and form in students a holistic idea of the application of knowledge in real life. An effective form of integration in the educational process of higher education institutions is integration with real life and practical activities.

In the context of the competency approach, vital integration of knowledge is important - the transfer of acquired knowledge and skills to the practical plane. This can be implemented through the case method, educational excursions, simulation games, and modeling of life situations.

The integration of educational content with real life is a key principle of the implementation of the competency-based approach, which underlies modern higher education. It involves the creation of such educational conditions under which students' knowledge, skills and abilities are formed not in isolation from reality, but in connection with real problems, situations and challenges of a professional and social nature.

In the context of the competency-based approach, the goal of learning is not only to master theoretical material, but to form a readiness for the practical application of knowledge in various life and professional contexts. Such an approach requires flexible thinking, the ability to analyze and make decisions, communicative and social competence, as well as the ability to adapt to new conditions.

Forms of implementation of integration with real life and practice may include:

- project and research activities focused on solving current social, environmental, economic problems;
- cooperation with employers, conducting trainings, guest lectures and industrial practices that reflect the real conditions of professional activity;
- use of case methods, simulations, imitations of real situations that help students «experience» typical scenarios of professional interaction;
- interdisciplinary modules that combine knowledge from several subjects to solve complex real-world problems;
- digital tools (virtual laboratories, artificial intelligence platforms, social networks) that provide a connection with real sources of information and behavioral models.

Psychological and pedagogical conditions aimed at integrating learning contribute to the integration process as a whole, which includes the following components:

1. Integration of information (educational content), which is presented in the educational program.
2. Integration of ways of knowing (students' ideas and skills or experience of activity, which are also widely represented in educational programs for each educational field).
3. Man in relations with the world (man and nature, man and society, man and man).
4. Man and culture (familiarization with various types of art and understanding that art is a reflection of the phenomena of reality).
5. Objective phenomena, processes, objects of the surrounding world; types of human activity, images, emotions, professions; types of knowledge, systems of scientific concepts, laws, leading ideas, systems of actions, models of objective processes and phenomena of life.

Integration of the educational process with real life ensures the formation of key and professional competencies, such as critical thinking, team interaction, ethical attitude to professional activity, the ability to continuous learning and self-development.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, integration with real life and practice within the framework of a competency-based approach not only makes the educational process more meaningful and motivating, but also creates the prerequisites for training competitive, flexible and responsible specialists who are able to act effectively in a changing social environment. Successful implementation of integrated learning is possible only with a systematic approach, support from the administration of higher education institutions, professional development of teachers and a high level of motivation of students.

The implementation of the ideas of integrated learning in the educational process of higher education institutions contributes to the formation of a holistic perception of the world, the development of key competencies, and the preparation of specialists for life in a rapidly changing information society. Integration is not an end in itself, but an effective information and didactic tool that allows you to teach not just subjects, but to apply knowledge in real-life situations.

We see prospects for further scientific research in the study of innovative technologies for applying forms of integration in the educational process of higher education institutions.

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УДК 37.014(075.8

ПІДГОТОВКА МАЙБУТНІХ УЧИТЕЛІВ ПОЧАТКОВИХ КЛАСІВ ДО ТЕХНОЛОГІЗАЦІЇ ВИХОВНОЇ ДІЯЛЬНОСТІ В НУШ

Анотація. Актуальність проблеми, висвітленої у статті, полягає в тому, що бурхливі соціально-економічні зміни в Україні та світі, зокрема широкомасштабна війна, зумовили зміни у змісті виховної роботи з учнями ЗЗСО, а це вимагає нових підходів до професійної підготовки майбутніх учителів початкових класів. Мета статті – окреслити шляхи професійної підготовки майбутніх педагогів до технологізації виховної діяльності в НУШ. Методи дослідження: теоретичний аналіз психолого-педагогічної літератури; аналіз практичного досвіду розв'язання проблеми. У результаті здійсненого дослідження висвітлено основні вимоги до змісту та основних напрямів виховання учнів відповідно до Концепції нової української школи та Державного стандарту початкової освіти. Розкрито найважливіші тенденції розвитку сучасної виховної практики, серед яких провідною є технологізація виховного процесу. Окреслено зміст понять «педагогічна технологія», «виховна технологія», «технологізація виховного процесу». Зокрема, зазначено, що технологізація освітнього процесу в сучасній вітчизняній та закордонній педагогіці пов'язана з пошуком таких педагогічних підходів, які могли б перетворити навчання і виховання у технологічний процес із гарантованим результатом. Виявлено розбіжності у поглядах учених щодо використання терміну «виховна технологія». Зосереджено увагу на змісті виховної діяльності педагога. Описано процес формування готовності майбутніх учителів початкових класів до інноваційної виховної діяльності. Компонентами готовності є належний рівень мотивації педагогів до інновацій у виховній діяльності, змістовий компонент, що включає інноваційне мислення педагога, творче освітнє середовище, операційний (діяльнісний) та результативний компоненти. Описано критерії готовності майбутніх педагогів до технологізації виховного середовища НУШ, а також рівні готовності (недостатній, адаптивний, репродуктивний та креативний).

Ключові слова: нова українська школа, майбутній учитель початкових класів, виховна діяльність, педагогічна технологія, виховна технологія, технологізація виховного процесу, готовність учителя до інноваційної виховної діяльності.

TRAINING FUTURE PRIMARY SCHOOL TEACHERS FOR THE TECHNOLOGIZATION OF EDUCATIONAL ACTIVITIES IN THE NEW UKRAINIAN SCHOOL (NUS)

Abstract. The relevance of the problem highlighted in the article lies in the fact that rapid socio-economic changes in Ukraine and around the world, particularly the large-scale war, have caused changes in the content of educational work with students in general secondary education institutions (GSEI), which requires new approaches to the professional training of future primary school teachers. The aim of the article is to outline the ways of professional training for future educators in relation to the technologization of educational activities in the New Ukrainian School (NUS). Research methods used include theoretical analysis of psychological and pedagogical literature and analysis of practical experience in solving the problem. As a result of the research conducted, the main requirements for the content and key areas of student education in accordance with the Concept of the New Ukrainian School and the State Standard of Primary Education have been highlighted. The article reveals the most important trends in the development of modern educational practice, among which the leading one is the technologization of the educational process. It outlines the content of the concepts of "pedagogical technology," "educational technology," and "technologization of the educational process." In particular, it is noted that the technologization of the educational process in modern domestic and foreign pedagogy is associated with the search for pedagogical approaches that could transform teaching and education into a technological process with guaranteed results. Discrepancies in the views of scholars regarding the use of the term "educational technology" have been revealed. The article focuses on the content of the educator's educational activities. The process of forming future primary school teachers' readiness for innovative educational activities is described. The components of readiness include an adequate level of motivation among educators for innovation in educational activities, a content component that includes the innovative thinking of educators, a creative educational environment, as well as operational (activity-based) and outcome components. The criteria for future educators' readiness for the technologization of the educational environment in NUS are described, along with the levels of readiness (insufficient, adaptive, reproductive, and creative).

Keywords: New Ukrainian School, future primary school teacher, educational activity, pedagogical technology, educational technology, technologization of the educational process, teacher's readiness for innovative educational activities.

INTRODUCTION

The problem formulation. The Concept of the New Ukrainian School states that a powerful state and a competitive economy will be ensured by a cohesive community of creative individuals, responsible citizens, active and enterprising people. According to the Concept, a graduate of the new school is a person, a patriot, and an innovator. The processes of development, education, and socialization in the new school are designed to make the graduate competitive in the 21st century (Concept of the New Ukrainian School, 2016). Education of students in the NUS is carried out on a value-based foundation. In accordance with the State Standard of Primary Education, the implementation of educational goals "is based on such value guidelines as recognizing the uniqueness and giftedness of each child, developing a free personality by supporting independence, independent thinking, optimism, and self-confidence; affirming human dignity by fostering honesty, courage, perseverance, kindness, the ability for empathy and compassion, justice, and respect for human rights (including the right to life, health, property, freedom of speech, etc.); cultivating love for the homeland and Ukrainian culture, respectful attitude towards the Ukrainian state; forming an active civic position (State Standard of Primary Education, 2018).

A new school requires a new teacher – motivated, creative, initiative-driven, student-oriented, and capable of constant self-improvement. At the same time, the new goals have brought to the forefront the issue of insufficient methodological resources and pedagogical experience. However, today, innovative processes are being initiated in the systems of school education and upbringing, and the components of the educational content, the competencies that students will need to achieve success in life, as well as the educational and upbringing methodologies and ways of developing corresponding universal life skills, are being reconsidered.

Analysis of recent research and publications. The features of creating and functioning of the educational system in the New Ukrainian School (NUS) are disclosed in scientific works of N. Bibik, I. Bekh, O. Kudria, N. Sofiy, O. Onoprienko, Yu. Naida, O. Polishchuk, M. Prystinska, V. Stepaniuk, T. Yatsyk, and others. The value foundations of the modern education system are examined in the works of I. Bekh, N. Bibik, O. Vyshnevskyi, O. Vitkovska, T. Havlitina, A. Grzegorchyk, I. Zhadan, I. Ziaziun, N. Klymeniuk, O. Kononenko, V. Kremen, R. Sopivnyk, O. Sukhomlynska, K. Chorna, and others.

Professional training of future educators is in the center of attention of such scholars as O. Antonova, N. Bibik, V. Bondar, M. Vashulenko, L. Hrynevych, O. Dubaseniuk, O. Komar, L. Kondrashova, O. Petrenko, O. Savchenko, T. Semeniuk, I. Khyzhniak, L. Khomych, and others. The issue of pedagogical technologies, including educational ones, is considered by domestic (V. Vyshkivska, N. Hrytsyk, A. Nisimchuk, O. Novak, O. Padalka, S. Svyrydenko, T. Skoryk, I. Smoliuk, V. Tiurina, O. Shpak) and foreign researchers (M. Eraut, R. Kaufman, M. Clark, P. Mitchell, K. Silber, D. Finn, S. Freinet, K. Chadwick, and others).

However, unlike the learning process, technological innovation in education is not always successful and productive. Many scholars and practicing educators consider this area to be the least amenable to regulation and believe it should be as free and creative as possible. At the same time, predicting the outcomes of educational work under such approaches is quite difficult. Therefore, we believe that the technologization of educational work in NUS is a necessary and objective process; however, it has its own peculiarities and requires appropriate professional training for future educators.

AIM AND TASKS RESEARCH – to outline the pathways for professional training of future educators for the technologization of educational activities in NUS.

RESEARCH METHODS: theoretical analysis of psychological and pedagogical literature; analysis of practical experience in problem solving.

RESULTS OF THE RESEARCH

The methodological paradigm of innovation in education is associated with educators' understanding of new relationships, qualities, patterns, and phenomena in upbringing, as well as implementing innovations in educational practice as a socio-pedagogical resource that enhances the effectiveness and productivity of educational activities. This involves creating a new educational environment, the function of which is to model and design the interaction of participants based on innovative principles. "Overall, a new content of upbringing is emerging before education, which is formulated in the educational process of a specific educational institution as a coherent pedagogical system that requires specially created conditions to achieve educational goals and tasks, and to fill it with purposeful activities. This new content of upbringing must not only be outlined but also structured, incorporated into a program to achieve the goals of the New Ukrainian

School – brining up conscious patriots, active citizens, and creative individuals, as well as creating appropriate scientific and methodological support" (Havlitina T., 2020, pp. 142-143).

Innovation in upbringing represents a process of developing, using, and disseminating new initiatives in the sphere of educational activities. The practical significance of innovations in upbringing lies in creating favorable opportunities for self-realization, successful socialization of young learners, the ability to integrate into the real world of social relations, expanding communicative forms of interaction, and involvement in the values and meanings of contemporary society. It also involves realization of educational tasks within the paradigm of competency-based education and formation of soft skills (universal competencies and skills) of students.

The relevance of using innovative technologies in educators' upbringing work is undeniable. Today, significant changes in educational practice are necessary due to the war in the country, challenges related to maintaining the integrity and sovereignty of Ukraine, which exacerbate existing problems and create new ones. In addition, modern children are surrounded by an environment in which a huge flow of diverse information comes from the Internet and television screens, making it difficult for even adults to navigate. In such a situation, students can easily fall under negative influence, which can lead to behavioral deviations. In light of this, the tasks of educators in the New Ukrainian School (NUS) are significantly enhanced and clarified. They are called upon to educate individuals who are responsible for themselves and those around them, capable of purposeful self-determination, self-realization, and self-actualization through socially useful activities; to develop critical and creative thinking, emotional intelligence among students to foster the ability to solve problems and make independent decisions; to cultivate a communicative culture, a culture of group and collective interaction, and cooperation (teamwork and collaboration); to develop personal qualities of the person of the future: adaptability, initiative, curiosity, perseverance, leadership, creativity, and spiritual-moral value orientations; to foster the culture of intellectual and health improvement; to prepare students for life in a multi-ethnic, multicultural world; to enhance work with students with special educational needs, and more.

Thus, the idea of educating a successful person of the 21st century with universal social skills and innovative thinking, characterizing practices in both domestic and foreign schools, has gained widespread recognition. The essence of the educational ideal has shifted from being socially oriented to being personally oriented or even personalized. Therefore, as O. Vitkovska notes, "the educational process built on old standards will not fit into the updated educational space of the school" (Vitkovska O., 2023, p. 116).

All the aforementioned qualities can be developed through collaboration and interaction, active communication, mastering the virtual educational space, engaging in joint creative, project-based, research, and volunteer activities. As M. Yevtukh and N. Terentieva state, addressing these strategic tasks highlights a number of key provisions in the activities of the New Ukrainian School that require special attention, among which is the readiness of a motivated teacher to implement innovations (Yevtukh M. & Terentieva N., 2018, pp. 72-77).

Since the beginning of the 21st century, practically all trends in educational practice are related to the development of new or the adjustment of traditional approaches and technologies. New technologies are actively being developed and implemented in educational practice. In particular, the direction of education in a multimedia environment within schools is actively evolving, and under conditions of war, there is an activation of work in the virtual space, as well as the spread of activity-based pedagogy technologies, among others. All this requires new approaches in the training of educators for the New Ukrainian School. "Requirements for the quality of education for graduates of higher educational institutions are set by a society saturated with technologies, which demands radical changes in the practice of organizing the educational process to create the most favorable conditions for self-disclosure, self-development, and self-realization of an individual" (Novak O., 2012).

Technologization of the educational process in modern domestic and foreign pedagogy is associated with the search for pedagogical approaches that could transform teaching and upbringing into a technological process with guaranteed results. "Technologization can be understood as a modern trend, the basis for the modernization of professional training for future teachers in higher education institutions, aimed at the effective transformation of the educational process in higher educational establishments, directed towards its optimization and rationalization, as well as implying formation of the level of technological culture of future educators, active design, and implementation of technologies in the professional activities of future educators" (Hrytsyk N. V. & Skoryk T. V., 2021, p. 78). The main principles of the technologization of the educational process include its conceptuality, rationalism, relevance, manageability, systemicity, reproducibility, and effectiveness.

V. Tyurina believes that pedagogical technology should be understood as an organization of the educator's activities, in which all actions are presented in a certain integrity and sequence, and teaching and upbringing involve achieving the necessary result and have a predictive nature (Tyurina V. O., 2013, p. 33). Thus, pedagogical technology, including educational technology, is a scientifically based strategy, tactics, and tools (methods, techniques, means) for education, as well as their staged nature, and aiming at solving a specific educational task. As D. Alfimov notes, "each task has an adequate educational technology. Changing the task leads to a change in technology" (Alfimov D., 2015).

Today, numerous technologies are used in the practice of teaching and upbringing, differing in their goals, content, and the results of their application. According to S. Svyrydenko, "the experience of their implementation proves that the educational process is a technological process. It is based on the educational activities of teachers, related to planning the expected results and the means to achieve them, modeling these means, purposeful implementation of developed plans and models, and managing the activities" (Svyrydenko S., 2010, p. 462).

At the same time, the existence of educational technologies is a contentious issue in pedagogical science due to the complexity of diagnosing the qualities of the personality that are intended to be developed. Some scholars argue that technologies should only be used in didactics, “since it is only possible to clearly and qualitatively define the diagnostic goal in learning. This could be the acquisition of a certain amount of educational material or methods of action in preparation for professional activity. This approach is justified by the fact that the quality of the material learned can be controlled and assessed. It is much harder to do this in upbringing. In the process of upbringing, one can rely on developed methodologies and subjective methods of control. Thus, in upbringing, one can speak of ‘elements of technologization of upbringing,’ the use of which would contribute to the effectiveness of the educational process” (Vyshkivs’ka V., 2009). In contrast, other scholars recognize the legitimacy of using the terms “educational technology,” “upbringing technology,” and “pedagogical technology.” “Each of these definitions has the right to exist, as both teaching technology and upbringing technology are generally pedagogical technologies. However, given the experience of domestic pedagogical practice, it seems important to use two separate terms: ‘teaching technology’ and ‘upbringing technology,’ especially since the latter has its own historical roots and was introduced into pedagogical science by A. Makarenko” (Alfimov D., 2015).

O. Dubasenyuk considers educational activity as the interaction between a teacher-educator and students, during which an unlimited number of educational tasks aimed at the self-formation, self-development, and self-education of a young person on personal and social levels are addressed (Dubaseniuk O., 2005). The ability of educators to use and, even more so, to create and implement innovative technologies in their educational activities indicates a high level of individual mastery. This enables them to avoid formalism in upbringing, inconsistencies, and inadequacies in educational influences, as well as the monotony of forms and methods of education, particularly the predominance of verbal methods.

However, many educators still intuitively solve educational tasks, working in a non-systematic and inconsistent manner. Analysis by scholars of the current state of educational work in schools leads to the conclusion that contemporary educational practice is in a transitional stage; that is, educators and teachers are not yet working with holistic scientific technologies, but are gradually moving away from intuitive resolution of educational tasks. There is a noticeable trend toward implementing proven technological findings (Alfimov D., 2015). It is precisely these educational technologies that provide the opportunity for clear designing of the content of the educational process and the corresponding types of activities for students to achieve planned educational goals at various levels—from societal to tactical levels of executing educational tasks and operational levels for using specific methods and techniques of educational influence.

A starting component of the readiness of future educators for innovative educational activity is an appropriate level of motivation. The innovative activity of an educator is connected with processes that define their attitude towards new ideas and changes in their professional stance. It is built under the influence of motivations for personal self-realization, self-assertion, prestige, the desire to teach and educate, and the focus of innovations on students and other subjects of the educational environment. Such motivation is characteristic of creatively working teachers. Educators with negative motivation are significantly inclined to stereotypes and rejection of everything new.

The content component is no less important. In the content of professional training for future primary school teachers for organizing educational work in the New Ukrainian School, scientists identify: the ability and skills to substantiate the general goal and set educational objectives; implementation of the educational opportunities of various types of children’s activities (educational, play, labor, sports, artistic, etc.); designing situations and events that develop the emotional and value sphere of the child; taking into account cultural, ethnic, gender, and mental characteristics of younger school-age children; recognition of the dignity, individual freedom, and rights of primary school students, their perception and acknowledgment, etc. (Petrenko O. & Petrenko I., 2024, pp. 32-33).

In order to form the content and build an educational work process that meets modern requirements, an educator-innovator must possess an innovative type of thinking. The innovative thinking of a teacher is realized at both cognitive and instrumental levels and is characterized as creative, scientific-theoretical, socially positive, constructive, and transformative, going beyond algorithms and templates, always leading to subjectively new results. The signs of innovative thinking include freedom from stereotypes, the ability to look at a situation "in a different way", flexibility of the mind, independence from external assessments, ability to withstand pressure, and tolerance for other opinions. Methods such as synectics, moderation, clustering, the Delphi method, and others foster the development of innovative thinking.

A creative educational environment is one of the most important conditions for the effectiveness of innovative processes in education. Therefore, the next component of educators' readiness for innovative educational activity is creative. Its development begins with imitating experiences, ideas, concepts, specific techniques, forms, and methods, and their usage. The next stage is imitative creativity, where the teacher, taking a well-known idea as a basis, independently develops the content, methods, and forms of its implementation. At the stage of true creativity, the educator creates their own original concept, methodology, or educational technology. As noted by N. Basiuk, "A holistic creative personality is characterized by a creative orientation, concentration of all spiritual powers and energy, inspiration, developed imagination, ability to improvise, focus, endurance, and self-control. Such a teacher is a hardworking individual, able to quickly navigate various pedagogical situations and find the necessary ways to solve them. They possess an unwavering desire to improve and refine their mastery. Therefore, a byproduct of the creative activity process is the growth of the teacher’s pedagogical mastery, the level of culture, thinking, and worldview" (Basiuk N., 2006, p. 183).

The operational, or activity-based, component of the educator’s innovative activity includes: identification and classification of problematic pedagogical situations that require resolution; search for innovative information; analysis of existing educational innovations and their interpretation; analysis of one’s own abilities regarding creation or adoption of innovations, as well as making decisions about creating or using something new; setting goals and general approaches to creating or applying innovations; creating a conceptual basis for the innovation; predicting methods for achieving goals, potential difficulties, and the results of innovative activity; discussing with colleagues and administration the content and ways of implementing an innovation; introducing an innovation into the educational process and monitoring its development; and conducting control and adjustments of the innovative activity.

The final component in the structure of a teacher's innovative activity is effectiveness, which includes the evaluation of the implementation results, reflection in the form of self-analysis, self-assessment, self-awareness, and self-interpretation of one's own activities, as well as the opinions and actions of students and colleagues. The criteria for the readiness of future teachers for the technologization of the educational environment in the New Ukrainian School (NUS) can include: 1) unstable attitude towards the process of creating and implementing innovations, the forced nature of innovative activity (insufficient level of readiness); 2) awareness of the need for self-improvement in the area of technologization of the educational process, copying ready-made methodological support, and adapting it to specific educational situations (adaptive level of readiness); 3) openness to new approaches in educational work, targeted search and use of innovative educational technologies, creation of separate new elements (methods, tools) of educational activity based on existing models (reproductive level of readiness); 4) creative activity, creation of one's own educational products (forms, methods, educational technologies), their implementation in practice, a high degree of effectiveness in educational activities, and dissemination of pedagogical experience among colleagues (creative level of readiness).

All innovative processes in schools are manageable. Management of innovative processes involves the competent selection of innovations that serve as a driving force for the development of the educational system as a whole. The characteristic features of innovative activity are integrity and systemicity.

Among the problems of implementing innovations in educational practice, one can note the unpreparedness of teachers for innovative activities, insufficient motivation to achieve high results in educational work, a low level of analytical and reflective skills, significant timeframes for the innovative educational process, and insufficient management skills.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

Thus, the use of innovative technologies in education is a requirement of the times. Technologization of the educational process in NUS is the application of such innovative approaches and technologies in educational practice that aim to achieve guaranteed results in the form of developed traits and qualities of students' personalities. Positive outcomes of the technologization of education include the revitalization and modernization of the educational work system, active interaction with schoolchildren, and the use of various types of student activities to form qualities necessary for successful socialization and self-realization in the society of the 21st century. Preparation of future teachers for the technologization of educational work in NUS is a complex and multifaceted process. It encompasses the motivational sphere of students, the formation of their innovative and creative thinking, the ability to use, create, implement, and disseminate innovative educational technologies, and to reflect on their educational activities. This work in higher education institutions is necessary, as researchers note the psychological and moral unpreparedness of some teachers for innovative educational activities, as well as its insufficient effectiveness and efficiency.

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ЗМІСТ

CONTENTS

Запрошуємо до співпраці!

Вельмишановні вчителі і вихователі, організатори і керівники освіти, вчені-педагоги і дослідники з України та інших країн, що вивчають людину, її життя і розвиток.

Гори, в якій країні вони б не були, справляють приблизно однаковий вплив на їх мешканців. Гірські ландшафти і особливі кліматичні умови визначають специфіку життєдіяльності і життєзабезпечення, традиції і звичаї, спосіб господарювання і виховання дітей.

Впливи природного середовища (гір, лісу, степу, клімату того чи іншого регіону тощо) майже не враховуються в організації навчально-виховного процесу. Дуже часто ті, хто цей процес здійснює, і самі не знають особливостей формуючого впливу сил природи на становлення і розвиток людської особистості.

Групою вчених Прикарпатського національного університету імені Василя Стефаника (Україна) розробляється регіональний проєкт «Гірська школа. Стан. Проблеми. Перспективи розвитку».

Метою проєкту є:

- вивчення впливу гірського середовища на розвиток, навчання і виховання учнів;
- дослідження змісту, форм і методів використання вчителями і вихователями особливостей гірського довкілля з метою підвищення ефективності навчально-виховного процесу;
- узагальнення результатів вивчення впливу гірського середовища на розвиток учнів, отримання наукових знань, встановлення закономірностей формування особистості в специфічних умовах гір;
- підготовка пропозицій та рекомендацій щодо врахування особливостей гірського середовища для вчителів, вихователів, організаторів і управлінців освітою різних рівнів.

Просимо ознайомитися з нашим «Проєктом», «Орієнтовною тематикою наукових досліджень», які вміщені в попередніх виданнях, врахувати соціально-економічні та культурно-історичні умови і особливості своєї країни і спільно досліджувати цю маловивчену проблему.

Порівняльний аналіз різних напрямів наукового вивчення означених питань дасть змогу не лише поділитись досвідом урахування впливів сил природи на виховання і розвиток дітей, але й встановити певні закономірності навчально-виховної роботи в умовах гірського регіону.

Результатами напрацювань учених України та інших країн можна буде обмінятись не лише шляхом наукових публікацій, але й у процесі їх обговорення на міжнародних семінарах, симпозіумах, конференціях.

Природознавці гірських країн Європи вже об'єдналися в дослідженнях проблеми збереження і сталого розвитку гір (Альпійська, Карпатська конвенції тощо). В 78 країнах світу створено Національні Комітети Гір.

Учені – педагоги, психологи, медики, соціологи, народознавці – мають також об'єднатись у вивченні проблем взаємодії природи і людини, впливу природи на розвиток особистості як найвищої цінності держави і суспільства.

Запрошуємо до наукової співпраці.

Розробники проєкту

Welcome to cooperation!

Dear teachers and tutors, organizers and heads of educational institutions, scientists-teachers and researchers in Ukraine and other countries, studying the person, her life and development. Mountains, no matter in what country they are, make approximately identical influence on their inhabitants. Mountain landscapes and special climatic conditions determine specificity of ability to live and life-support, traditions and customs, ways of managing and children's education.

Influence of the environment (mountains, woods, steppes of a region) almost is not taken into consideration at the organization of educational process. Very often those who carries out this process, do not know themselves all features of forming influence of the natural conditions on the making and development of the human person.

The regional project «Mountain school. Condition. Problems. Prospects of development» is developed by the group of scientists of the Precarpathian National University named alter Vasyl Stefanyk (Ukraine).

The purposes of the project are as follows:

- Studying influence of the mountain environment on development, training and education of pupils;
- Research of the contents, forms and methods of use by teachers and tutors of features of tile mountain environment aimed at increasing of the efficiency of educational process;
- Summarizing of the results of studying influence of the mountain environment on development of pupils, acquiring scientific knowledge, determining the laws of the person's formation in specific conditions of the mountains;
- Preparation of offers and recommendations about taking into account features of the mountain environment for teachers, tutors, organizers and heads of educational institutions of different levels.

Will you acquaint yourself with our «Project», «Approximate subjects of scientific researches», which contains this edition, consider social – economic and cultural-historical conditions and features of your country and make common exploration of this insufficiently studied problem?

The comparative analysis of different directions of scientific studying of the defined problems will enable not only to share experience of taking into account influences of the natural conditions on education and development of children, but also will define certain laws of teaching and educational work in conditions of the mountain region.

It will be possible to exchange the results of the researches of scientists in Ukraine and other countries not only by means of scientific publications, but also during their discussion at the international seminars, symposiums and conferences.

Naturalists of the European highland countries have already united in researches of the problem of preservation and constant development of mountains (the Alpine and Carpathian conventions, etc.). The National Committees of Mountains are founded in 78 countries of the world.

Scientists – teachers, psychologists, physicians, sociologists, and ethnologists should also unite for studying problems of interaction of the nature and the person, influence of the nature on development of the person as the most value of the state and society.

We invite you to scientific cooperation.

ПОЛІТИКА ВІДКРИТОГО ДОСТУПУ

Наукове фахове видання з педагогічних наук «Гірська школа Українських Карпат» практикує політику відкритого доступу до опублікованого змісту, підтримуючи принципи вільного поширення наукової інформації та глобального обміну знаннями задля загального суспільного прогресу. Часопис видається Прикарпатським національним університетом імені Василя Стефаника з 2006 року.

Періодичність видання – виходить 2 рази у рік.

Наукове фахове видання з педагогічних наук «Гірська школа Українських Карпат» містить статті теоретичного й експериментально-прикладного спрямування з актуальних проблем теорії та історії педагогіки, філософії освіти, освітнього менеджменту, методик і технологій організації навчання, виховання та профорієнтації учнів у закладах освіти і позашкільних установах, освітніх інновацій, психолого-педагогічних проблем розвитку особистості школярів, фахової підготовки та професійного становлення майбутніх педагогів, неперервної педагогічної освіти, педагогічної практики, порівняльної педагогіки, соціальної педагогіки тощо. Велику увагу часопис приділяє проблематиці гірських шкіл.

Видання з педагогічних наук «Гірська школа Українських Карпат» адресоване науковцям, педагогам, докторантам, аспірантам, педагогічним працівникам гірських шкіл України та зарубіжжя, батьківській громадськості, усім тим, хто цікавиться сучасним станом розвитку педагогічної науки.

За достовірність фактів, назв, дат, покликань та літературних джерел, політики антиплагіату тощо відповідальність несуть автори. Редакційна колегія не завжди поділяє їхні погляди. Статті рецензують члени редакційної колегії.

Науковому фаховому виданню з педагогічних наук «Гірська школа Українських Карпат» присвоєно Міжнародний стандартний серійний номер ISSN 1994-4845 (Print), ISSN 2415-7147 (Online).

Журнал «Гірська школа Українських Карпат» зареєстрований, реферується та індексується у таких наукометричних базах даних, пошукових системах та репозитаріях:

- **Національна біліотека імені В.І.Вернадського (Україна)** http://www.nbuv.gov.ua/
- **Українські наукові журнали (Україна)** usj.org.ua
- **Index Copernicus International (Республіка Польща)**
  https://journals.IndexCopernicus.com/search/details?id=4580 **(ICV 2022 = 70.26)**
- **Google Scholar** https://cutt.ly/CeCKM0u
- **Scilit (Швейцарія)** https://www.scilit.net/journal/1908455
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OPEN ACCESS POLICY

The journal practices a policy of open access to published content, supporting the principles of the free flow of scientific information and global knowledge sharing for the general social progress.

Scientific professional publication in pedagogical sciences «Mountain School of Ukrainian Carpaty» has been published by Vasyl Stefanyk Precarpathian National University since 2006.

Publication frequency – twice a year.

The journal contains theoretical and experimental articles highlighting current problems of the theory and history of education, philosophy of education, educational management methods and technologies of training, education and vocational guidance of students in educational institutions and extracurricular institutions, educational innovations, psycho-pedagogical problems of student personality development , professional training and professional development of future teachers, continuous pedagogical education, pedagogical practice, comparative pedagogy, social pedagogy and more. Much attention is paid to the problems of mountain schools. Scientific specialized edition of pedagogical sciences is intended at researchers, teachers, doctoral students, graduate students, academic staff, the parent community, and all those interested in the current status of pedagogical education development.

Authors are responsible for the reliability of facts, names, dates, references and literature, plagiarism etc. The editorial board does not always share their views.

The International Standard Serial Number has been assigned to the scientific specialized edition of pedagogical sciences «Mountain School of Ukrainian Carpaty» - ISSN 1994-4845 (Print), ISSN 2415-7147 (Online)

The journal «Mountain School of Ukrainian Carpaty» is registered, referenced and indexed in the following research computer databases, search engines and repositories::

- **Vernadsky National Library (Ukraine)** http://www.nbuv.gov.ua/
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- **Index Copernicus International (Republic of Poland)**
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- **ERIH PLUS** https://dbh.nsd.uib.no/publiseringskanaler/erihplus/periodical/info.action?id=498179

ВИМОГИ

ДО СТАТЕЙ У НАУКОВОМУ ФАХОВОМУ ВИДАННІ «ГІРСЬКА ШКОЛА УКРАЇНСЬКИХ КАРПАТ» КАТЕГОРІЯ «Б»

Статті, подані до збірника, повинні мати необхідні елементи:

1. Ім'я, прізвище, інформація про автора (вчене звання, науковий ступінь, назва організації, в якій працює автор українською та англійською мовами.

2.Корпоративна електронна пошта автора (авторів) статті.

3. Номер **ORCID** (http://orcid.org/) і/ або номер r**esearcherID ID** (http://www.researcherid.com/)

4. Номер **УДК**.

5. Назва статті, текст напівжирним шрифтом, усі великі літери.

6. Резюме і ключові слова (курсив) мовою статті з такими обов'язковими елементами: актуальність проблеми, мета, методи та результати дослідження (від 1800 знаків та 10 ключових слів).

7. Назва статті українською та англійською мовами, вирівнювання по середині, текст напівжирним шрифтом, усі великі літери.

8. Авторське резюме українською та англійською мовою.

9. Текст статті, де містяться такі **необхідні елементи**:

1. Вступ / **INTRODUCTION**. Постановка проблеми. **Analysis of recent research and publications**.

2. Мета дослідження / **THE PURPOSE OF THE RESEARCH**

Визначаються, виходячи з невирішених чи проблемних аспектів порушеної теми. Завдання мають бути спрямовані на узагальнення даних, формулювання концепції, певної моделі, методики, розробку та виділення методів, умов проведення дослідження тощо.

3. Методи дослідження / **RESEARCH METHODS**. Методи дослідження передбачають опис їх основного змісту, характеристик і показників, які вони фіксують, та одиниць вимірювання.

4. Результати дослідження / **RESEARCH RESULTS**. Виклад основного матеріалу дослідження з повним обґрунтуванням отриманих наукових результатів повинен містити стисле узагальнення отриманих автором даних із виділенням напрямів, тенденцій, підходів до розв'язання проблеми. Опис емпіричних результатів має містити конкретні дані, що підтверджують статистичну достовірність отриманих результатів, у вигляді таблиць, графіків, діаграм з подальшою інтерпретацією. Теоретичний аналіз не повинен обмежуватися посиланнями на авторів, які вивчали порушене питання. У статті бажано також подавати посилання на іншомовні джерела та джерела з бази **Scopus** і **Web of Science**.

5. Висновки та перспективи подальших досліджень / **CONCUSSION AND PROSPECTS FOR FURTHER RESEARCH**.

Висновки з дослідження, які стисло висвітлюють сутність отриманих результатів згідно з поставленими в роботі завданнями.

6. Список використаних джерел подається в міжнародному стилі оформлення наукових публікацій **APA**.

REFERENCES

Подається англомовний переклад списку використаних джерел. Переклад засобами онлайн-сервісів інтернет не допускається. Окремими файлами подається:

Довідка про автора (співавторів).

Лист -підтвердження оригінальності дослідження.

Редакційна колегія залишає за собою право відхиляти доповіді та статті, які не відповідають вищезгаданим вимогам і тематиці видання.

Статті надсилати на електронну пошту наукового фахового видання з педагогічних наук «Гірська школа Українських Карпат»:

E-mail: ifosuhcvas@gmail.com АБО inna.chervinska@pnu.edu.ua

REQUIREMENTS

FOR ARTICLES IN THE SCIENTIFIC PROFESSIONAL PUBLICATION «MOUNTAIN SCHOOL OF THE UKRAINIAN CARPATHIANS» CATEGORY «B»

Articles submitted to the collection must have the required elements:

1. First name, surname, information about the author (academic title, scientific degree, name of the organization where the author works in Ukrainian and English.
2. Corporate e-mail of the author (authors) of the article.
3. **ORCID number** (http://orcid.org/) and / or **researcherID ID number** (http://www.researcherid.com/)
4. **UDC** number.
5. Title of the article, text in bold, all capital letters.
6. Summary and keywords (italics) in the language of the article with the following mandatory elements: relevance of the problem, purpose, methods and results of the study (from 1800 characters and 10 keywords).
7. The title of the article in Ukrainian and English, centered, text in bold, all capital letters.
8. Author's resume in Ukrainian and English.
9. The text of the article, which contains the following required elements:

1. **INTRODUCTION**. Problem statement. Analysis of recent research and publications.
2. **PURPOSE OF THE RESEARCH**

Determined on the basis of unresolved or problematic aspects of the topic. The objectives should be aimed at generalizing data, formulating a concept, a specific model, methodology, developing and highlighting methods, research conditions, etc.

3. **RESEARCH METHODS**. Research methods provide for a description of their main content, characteristics and indicators that they record, and units of measurement.
4. **RESEARCH RESULTS**. The presentation of the main research material with a full justification of the scientific results obtained should contain a brief summary of the data obtained by the author with the selection of directions, trends, approaches to solving the problem. The description of the empirical results should contain specific data confirming the statistical reliability of the obtained results, in the form of tables, graphs, diagrams with further interpretation. Theoretical analysis should not be limited to references to authors who have studied the issue raised The article should also provide references to foreign-language sources and sources from the Scopus and Web of Science databases.
5. **CONCUSSION AND PROSPECTS FOR FURTHER RESEARCH**.

Conclusions from the study, which briefly highlight the essence of the results obtained in accordance with the tasks set in the work.

6. The list of sources is presented in the international style of scientific publications **APA**.

REFERENCES

The English translation of the list of sources is provided. Translation by means of online services is not allowed. It should be submitted in separate files:

Reference about the author (co-authors).

Letter confirming the originality of the study.

The editorial board reserves the right to reject reports and articles that do not meet the above requirements and the subject of the publication.

Articles should be sent to the e-mail address of the scientific professional publication on pedagogical sciences «Mountain School of the Ukrainian Carpathians»:

E-mail: ifosuhcvas@gmail.com
inna.cervinska@pnu.edu.ua

The articles in the magazine are open to discussion, therefore, their content does not always reflect the views of the Editorial Board. Reference to this publication is required when reprinting the material.

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