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DIGITALIZATION OF EDUCATION IN THE REPUBLIC OF BELARUS: PROBLEMS AND CHALLENGES, RISKS AND DEVELOPMENT PROSPECTS[1][2]

Objective: *identification of problematic aspects of the procedural development in digital transformation of the educational sphere in the Republic of Belarus, based on the main trends in dynamically improving and technologically advanced education as one of the formation determinants of an information society in the context of maturation of challenges and threats of a systemic environmental and global nature.*
Materials and methods. *When writing the article, a set of sources such as scientific publications on the declared study issues, as well as the practice-oriented provisions of the Concept of Digital Transformation of Processes in the Education System of the Republic of Belarus for 2019-2025 was used. In the course of the study, the following methods were used: content analysis of sources, a comparative method.*
Results. *The study revealed the main problematic aspects of the process of digitalization of education in the Republic of Belarus, taking into account the determinants of the formation of an information society and trends in the development of the educational sphere. The author specified the conceptual and terminological apparatus of the study, identified the main challenges and threats associated with the processes of innovative technologization of education and information and communication space, highlighted the prospects for the development of scientific search in the field of digital didactics.*
Conclusion. *The purpose of the study has been achieved. Key problems of procedural development of digitalization of education in the Republic of Belarus have been identified in connection with the trends in the formation of an information society, the dynamic technologization of the information and communication space and the educational sphere. The author took into account the phenomenological essence of the digital transformation of education, which makes it possible to comprehend the processes of its innovative improvement through an understanding of the complexity, dialetic relationship and multidimensional nature of the processes carried out in the course of scientific reflection.*

Keywords: *digitalization of education, digital transformation of education, information and communication space*, *technologization of education.*

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ЦИФРОВИЗАЦИЯ ОБРАЗОВАНИЯ В РЕСПУБЛИКЕ БЕЛАРУСЬ: ПРОБЛЕМЫ И ВЫЗОВЫ, РИСКИ И ПЕРСПЕКТИВЫ РАЗВИТИЯ

Цель *– выявление проблемных аспектов процессуального развития цифровой трансформации образовательной сферы в Республике Беларусь, определяемой с учетом основных тенденций совершенствованя динамично технологизируемого образования в качестве одного из детерминантов становления информационного общества в условиях вызревания вызовов и угроз системного средового и глобального характера.*
Материалы и методы. *При написании статьи использовался комплекс источников, представленных научными публикациями по заявленной проблематике исследования, а также практико-ориентированные положения Концепции цифровой трансформации процессов в системе образования Республики Беларусь на 2019–2025 гг. Использованы контент-анализ источников и сравнительно-сопоставительный метод.*
Результаты. *В ходе исследования выявлены основные проблемные аспекты процесса цифровизации образования в Республике Беларусь с учетом детерминантов формирования информационного общества и тенденций развития образовательной сферы. Автором конкретизирован понятийно-терминологический аппарат исследования, определены основные вызовы и угрозы, связанные с процессами инновационной технологизации образования и информационно-коммуникационного пространства, выделены перспективы развития научного поиска в области цифровой дидактики.*
Заключение. *Цель исследования достигнута. Выявлены узловые проблемы процессуального развития цифровизации образования в Республике Беларусь во взаимосвязи с тенденциями становления информационного общества, динамичной технологизацией информационно-коммуникационного пространства и образовательной сферы. Автором учтена феноменологическая сущность цифровой трансформации образования, что позволяет осмысливать процессы ее инновационного совершенствования через понимание сложности, диалетической взаимосвязи и многоаспектности осуществляемых процессов в ходе научной рефлексии.*

Ключевые слова: *цифровизация образования, цифровая трансформация образования, информационно-коммуникационное пространство, технологизация образования.*

Научная новизна статьи

Представлен современный взгляд на проблематику вопросов, связанных с неоднозначными в своей сущностной феноменологичности процессами цифровизации образовательной сферы в Республике Беларусь, которые определяются в качестве одной из важных тенденций развития образования, а также детерминирующего фактора становления и развития информационного общества – общества экономики знания и человеческого капитала. Осуществлена научная рефлексия проблемных аспектов практического осуществления цифровой трансформации образования (в том числе и институционального), связанные с ней вызовы и риски, а также перспективы процессуального развития на пути динамичной инновационной технологизации образовательной сферы. Автором предложены императивы, учет которых позволит преодолеть возникающие противоречия техногенного и социоприродного характера в эффективном обеспечении преемственности в образовании на всех его системных уровнях. Обозначена дальнейшая направленность изучения заявленной проблематики с учетом вызревающих вызовов и угроз системно-средового и глобального характера.

Scientific novelty of the article

A modern view of issues related to the processes of digitalization of the educational sphere in the Republic of Belarus, which are ambiguous in their essential phenomenology, is presented. Such issues are determined as one of the important trends in the development of education, as well as presented as determining factor in the formation and development of the information society – the society of the economy of knowledge and human capital. A scientific reflection of the problematic aspects of the practical implementation of the digital transformation of education (including institutional one), the challenges and risks associated with it, as well as the prospects for procedural development on the path of dynamic innovative technologization of the educational sphere was carried out. The author proposed imperatives that allow to overcome the emerging contradictions of a technogenic and sociological nature in effectively ensuring continuity in education at all its systemic levels. The further focus of the study of the declared problems is indicated, taking into account the maturing challenges and threats of a system-environment and global nature.

Introduction. Modernization processes in the field of education are interrelated with the dynamic socio-cultural changes. They largely determine the qualitative orientation of the society's further development within the framework of the noosphere paradigm in revealing the spiritual and moral potential of the person from the standpoint of understanding the harmonious coexistence of social and technogenic components in modern society. This socio-philosophical aspect is crucial in understanding the phenomenon of digitalization of education and the changes that are being carried out in the educational sphere in the implementation of the provisions of the Concept of digital transformation of processes in the education system of the Republic of Belarus for 2019–2025 [1]. Content analysis of analytical, theoretical and methodological studies carried out by both Belarusian and other post-Soviet countries' authors (the works of Bogush V. A., Shneiderov E. N., Butina E. A., Vorohobov A. V., Zhuk O. L., Korzina M. I., Rabinovich P. D., Titarenko L. G., Uvarov A. Yu., Choshanov M. A. [2–10]) leads to a conclusion that there is a certain scientific groundwork in studying issues related to the conceptual justification of the practical implementation of measures to digitalize the educational sphere.

At the same time, the tasks of a complex theoretical methodological nature remain in the problematic field of study. They are related to the concretization of the conceptual and terminological apparatus, the identification of the main trends in the innovative development of education in the context of the maturation of risks, challenges and threats to society of the era of digitalization. The following are also highlighted as urgent tasks within the framework of our research: identification of factors that determine the technology of education from the standpoint of understanding the qualitative changes in the information and communication space and the information and educational environment (IEE) at the systemic levels of secondary and higher education in the Republic of Belarus; determining the main conditions for minimizing risks and solving nodal problems, taking into account the understanding of the phenomenon of digitalization of education and the phased implementation of conceptual provisions for planning measures for digital transformation of processes in the education system of the Republic of Belarus for 2019-2025. [1].

Main part. The pluralism of interpretations of key concepts «digitalization of education» and «digital transformation of education» existing in research on the digitalization of education testifies not only to interdisciplinary in various research theoretical and methodological approaches, but also to the phenomenological nature of the studied phenomena and processes with the complexity and ambiguity of their understanding. This allows to define the digitalization of education as:

– following the stage of informatization, the period of the information revolution in the educational sphere from the standpoint of a linear understanding of the process of socio-historical and technological development of communities;

– a stage of qualitative stage development of education, which leads to an increase in the efficiency of its functioning at the systemic levels, as well as an improvement in the quality of life of people and an acceleration of the pace of development of the individual and society in the context of an evolving information and communication space based on the use of the technological and technological and didactic potential of

information and communication technologies (ICT);

– a global trend in the development of the educational sphere, which, based on the positions of system-activity and competent approaches, is characterized by the organization and implementation of educational activities, taking into account the formation and consolidation in personal and social experience of professional competencies and the basic foundations of the information culture of subjects of educational activity in the context of the widespread use of ICT and the transfer of part of educational and cognitive activity to the area of the virtual space of the IEE.

An important unifying principle in scientific approaches that determine the phenomenon of digitalization of education is the separation of its process essence and focus both on the person and on society. In this understanding, it is advisable to determine the essential trinity of digitalization of education, which acts as a process, condition and the achieved effectiveness of qualitative changes in the educational sphere.

Based on the interpretation of the phenomenological essence of digitalization of education, the conceptual meaning «digital transformation of education» indicates a qualitative transition of the determined object to a new state, its transformation as a result of targeted internal and external changes. In its triunity (by analogy with the phenomenon of digitalization of education), the digital transformation of education essentially combines the procedural and resulting principle, as well as the very condition of a qualitative system transformation.

The digital transformation of education with its modernization changes is interrelated with the process of developing and implementing effective training models focused on integrating innovative ICT into the educational process and, therefore, its technologization. The technologization of education is a process of qualitative development of the educational system in the context of a significant increase in the role of technologies to effectively ensure the organization and implementation of educational and educational activities, solving pedagogical problems. The dynamics of such development, being a qualitative manifestation of the digitalization of the educational sphere, is associated with factors that determine both the pace and originality of processes (including when ensuring continuity). Such determinants in society include the following:

– implementation of the status of education in a procedural and substantive manner as one of the foundations of the knowledge economy;

– rapid socio-cultural changes related to the integration of innovative ICT and high-tech technical solutions into the existence of a person and society;

– presentation by the labor market of qualitatively new requirements for the competencies of a future specialist - a participant in high-tech production of the era of the fourth industrial revolution and the formation of a social order for such an employee;

– development of theoretical and methodological approaches in justifying innovative educational models, which in their practice focus ensure the interaction of science, education, production and business in the conditions of formation and development of the knowledge economy;

– improvement of the legal framework for the implementation of processes that are the content of digital transformation of education;

– development of pedagogical practice and experience in ensuring continuity of educational levels in the Republic of Belarus and in the post-Soviet space in the context of digitalization.

The digital transformation of education in the dynamic integration of high-tech technical solutions and innovative technologies for their application changes the quality of the information and communication space and offers new conditions for achieving the goals and solving problems facing the educational sphere of the Republic of Belarus. Thus, cases of using artificial intelligence (AI) platforms in education provide an opportunity to optimize information resources in relation to user requests and perform certain tasks with high speed within the framework of educational and cognitive activities (for example, when searching, classifying and predicting during processing large amounts of data, as well as when analyzing and correcting the generated text on a given topic). A powerful didactic arsenal in organizing and implementing the training process is made up of developments in the field of robotics, tools for artificial and hybrid intelligence, augmented and virtual reality, cloud and proctoring technologies. Effective training in the developed didactic models is seen through the use of gamification elements, 3D-simulators,

interactivity tools. The pedagogical task is not to provide coercion in training, but to provide opportunities and conditions for development and improvement with an orientation to the requests of users – subjects of educational and educational activities. The didactic role of such high-tech tools is to provide the learning process in combination with traditional didactic tools at all stages of organization and implementation of educational and cognitive activities during its algorithmization. The subjective opinion of online education as superficial and less meaningful in comparison with the full-time form is contrasted with the idea of the technological development of didactic tools and, therefore, justified attention to the reputation of the reliability of the teaching tools used, providing the necessary functionality of the process and the IEE of the educational institution.

It is important to note that along with the obvious progressive direction, the implementation of technological processes within the framework of digitalization of education carries new risks and threats, without which it is impossible to carefully determine development prospects, from the standpoint of well-thought-out strategies to respond to social and technogenic challenges. The concept of «challenge» is defined by us as a really emerging situation (trend), the consequence of which may be real threats of violation of the existing situation in society as a whole. In this sense, in relation to public security, a threat is a probabilistic expression of a possible negative (from the standpoint of the interests of an individual, society or state) impact on the interests themselves, the conditions and possibilities for their implementation, on the system of relations expressed by these interests. The category «social danger» is understood by us as the possibility of circumstances that may thus affect a complex social system, which will lead to deterioration or impossibility of its functioning and development. Danger and threat are objective circumstances: the onset or likelihood of undesirable events. The risk is associated with the subjective activities of a person in society. Inadequate perception of hazards and threats leads to an underestimation of the emerging situation or its misunderstanding and, as a result, loss of control over it and destabilization. Risks that may negatively affect the implementation of the provisions of the Concept of digital transformation of processes in the education system of the Republic of Belarus for 2019–2025 were noted by the authors of the analytical note to this document [1, p. 3–4].

The threats of a technogenic nature associated with the use of AI platform tools include the emergence of generated information products with false information and, therefore, the need to control its truth by the teacher (however, also armed with high-tech control tools). In relation to the use of powerful AI-systems in education, one cannot but agree with the opinion of Bogush V. A., Titarenko L. G., Shneiderov E. N. [2; 8] that this innovative toolkit in the educational field should only be developed when we are confident that their effects will be positive and the risks manageable.

Technologically advanced deviant educational behavior in the forms of using hints, decommissioning, falsifications, guest writing, compilations, plagiarism and other forms of academic fraud at the level of miniaturization (microheadphones and wireless means of broadcasting audio-video signals), the use of cloud technology tools, automatic text generation systems based on neural networks in its practice poses a danger to both society and the individual [11]. The threat of deviant educational behavior lies in its growth and spread. Repeated in various forms and implemented in the actions of academic fraud among new generations of students and students, but already using high-tech technical solutions, they contribute not only to the erosion of moral and ethical norms in society, but also become a favorable environment for offenses. And this is an extremely important problem in its relevance, the solution of which is seen not in minimizing the consequences, but in preventing and preventing technologically advanced academic fraud.

In our understanding, the digitalization of education and the processes of digital transformation of the educational sphere are not unconditional determinants of the spread of deviant educational behavior in increasingly technologically advanced forms and technical means used. High-tech information and communication space and IOS educational institutions in the context of digital transformation provide development conditions, effective didactic tools and mechanisms for the provision of educational services and educational activities for subjects of pedagogical interaction. In a situation of personal choice of an action strategy and a behavior model in fol-

lowing the built-up trajectory of achieving the goal of education, this choice is still carried out by an autonomous person (albeit taking into account the underlying factors).

The trends of development maturing in modern education, due to their novelty and relevance, indicate the problem of adapting both the system and the subjects of pedagogical interaction themselves to effective functioning in the conditions of the information and communication space and the RIOS formed in the Republic of Belarus. The contradiction is expressed not only in the situation of the "digital gap", but also in the asynchronousness of the dynamics of the overtaking quality of the development of the environment in relation to the lagging pace of formation of the competencies of educational activities relevant for effective activity in this environment [12]. The question of their adaptation to qualitative environmental changes is becoming more and more urgent. One of the solutions to the problem is to effectively ensure continuity, which focuses on the formation of the student's school and the further development of such personal increments in the student, which, being enshrined in his social and professional experience, would become basic for competencies based not only on the knowledge component, but also on effective activity qualities of active interaction, enterprise and creative style of thinking. Modern universities (for example, models of research and entrepreneurial university 3.0, social and entrepreneurial digital university 4.0) are focused on the training and professional education of a student within the framework of the training model, in which a significant share of educational and educational activities falls not only on a collective, but also on an independent search, research project. In the context of digital transformation of education, continuity is not ensured largely due to the lack of consistency in the content, methods and means of education at the level of general secondary and higher education, as well as low-level functional literacy of students, the lack of formation of their information culture. The solution of the complex of these issues is in the plane of development and implementation in practice of mechanisms for effective continuity assurance.

Conclusion. The results of the analysis of the processes of digital transformation of the field of education make it possible to identify the main risks and nodal problems that have a technogenic and sociological basis. Such problems include the problems of the digital and functional-activity gap, manifested in the situation of lack of wide access to ICT, as well as in the asynchronousness of the pace of advanced development of the information and communication space in connection with the lagging dynamics of the formation and development of competencies of subjects of educational activities, their adaptation to the changed conditions of the information and educational environment. One of the urgent problems is the practice of expanding the deviant educational behavior of students and students using high-tech technical solutions and ICT. One of the reasons for deviant educational behavior in conditions of weak adaptation to the high requirements of IEE is the underdevelopment of the information culture of students and students. In this sense, an important condition for minimizing risks and solving the nodal problems noted by us in the framework of the processes of digital transformation of education is the consideration of the imperative requirements being developed to effectively ensure the continuity of general secondary and higher education. These imperatives include:

– availability of functional literacy and formation of information culture of the participating subjects of pedagogical interaction, focused on constant self-development and improvement of professional requirements for themselves, their activities and its results;

– focus on development and application of the most effective models of educational process, overcoming objective contradictions of didactic and educational process;

– the use of educational institutions adapted to the requirements of the information and communication space and the information and educational environment, which are actively developed at all stages of content, forms, methods and means of organization and implementation of educational and educational activities;

– purposefulness and dynamism of pedagogical activity, its progressive and ascending character;

– subject-subjectivity and constructiveness of activities of actors of pedagogical interaction, aware of the main ideas of the studied educational subject, its logic, systemic internal and external relationships.

It is advisable to consider these requirements as an element of mechanisms for effectively en-

suring continuity at the systemic levels of general secondary and higher education in the context of digitalization of the educational sphere. When solving the nodal problems we noted from the perspective of understanding the phenomenological aspects of digital transformation of education, it is important to take into account that one of the reasons for the emerging contradictions and the severity of the problems associated with the use of the technological, technological and didactic potential of innovative ICT is the ill-thinking of decisions proposed for implementation in practice without proper scientific analysis. At the point of bifurcation of development, society and education are in dire need of a balanced and deep scientific analysis of the contradictions and problems we have identified, which suggests the prospect of continuing scientific discussion and systemic research devoted to the study of digitalization processes in the educational sphere.

References

1. Kontseptsiya tsiphrovoy transphormatsii protsessov v sisteme obrazovaniya Respubliki Belarus' na 2019–2025 gg. [The concept of digital transformation of processes in the education system of the Republic of Belarus for 2019–2025]. *Gosudarstvennoye uschrejdeniye obrazovaniya «Minskiy gorodskoy institut razvitiya obrazovaniya»* [State Educational Institution «Minsk city institute for the development of education»]. (In Russian). Available at: http://iso.minsk.edu.by/main.aspx?guid=34963 (accessed: 28.04.2023).
2. Bogush V. A., Shneiderov E. N. Tsifrovizatsiia obrazovaniia: problemy, vyzovy i perspektivy [Digitalization of education: problems, challenges and prospects]. *Adukacyja i vyhavanne* [Education and upbringing], 2021, no. 1, pp. 14–21 (In Russian).
3. Butina E. A. Tsifrovizatsiia obrazovatel'nogo prostranstva: riski i perspektivy [Digitalization of the educational space: risks and prospects]. *Professional'noe obrazovanie v sovremennom mire* [Professional education in the modern world], 2020, no. 10 (2), pp. 3695–3701. (In Russian)
4. Vorohobov A. V. Tsifrovizatsiia obrazovaniia: aktual'nye trendy i filosofsko-metodologicheskie problemy [Digitalization of education: current trends and philosophical and methodological problems]. *Iuridicheskaia nauka i praktika: Vestnik Nizhegorodskoi akademii MVD Rossii* [Legal science and practice: journal of Nizhny Novgorod academy of the Ministry of internal affairs of Russia], 2020, no. 1 (49), pp. 220–222. (In Russian)
5. Zhuk O. L. Predprinimatel'skaia transformatsiia universitetov v usloviiakh chetvertoi promyshlennoi revoliutsii [Entrepreneurial transformation of universities in terms of the fourth industrial revolution]. *Zhurnal Belorusskogo gosudarstvennogo universiteta. Zhurnalistika. Pedagogika* [Journal of the Belarusian State University. Journalism and Pedagogics], 2019, no. 1, pp. 108–116. (In Russian)
6. Korzina M. I. Rol' obrazovaniia v epokhu chetvertoi promyshlennoi revoliutsii (sotsial'no-filosofskii analiz) [Role of education in the fourth industrial revolution (social-philosophical analysis)]. *Manuskript* [Manuscript], 2020, no. 13 (10), pp. 186–192. (In Russian)
7. Rabinovich P. D., Zavedensky K. E., Kushnir M. E., Khramov Yu. E., Melik-Parsadanov A. R. Tsifrovaia transformatsiia obrazovaniia: ot izmeneniia sredstv k razvitiiu deiatel'nosti [Digital transformation of education: from change of means to development of activities]. *Informatika i obrazovanie* [Computer science and education], 2020, no. 5 (314), pp. 4–14. (In Russian)
8. Titarenko L. G. Vliianie tsifrovizatsii na uchebno-vospitatel'nyi protsess: perspektivy i riski [The impact of digitalization on the educational process: prospects and risks]. *Vyshjejshaja shkola* [Higher school], 2022, no. 1, pp. 5–7. (In Russian)
9. Uvarov A. Yu., Gable E., Dvoretskaya I.V., Zaslavsky I. M., Karlov I. A., Mertsalova T. A., Sergomanov P. A., Frumin I. D. *Trudnosti i perspektivy tsifrovoi transformatsii obrazovaniia gidribiontov* [Difficulties and prospects of digital transformation of education]. Moscow, Publishing House of the Higher School of Economics, 2019. 342 p. (In Russian)
10. Choshanov M. A. E-didaktika: Novyi vzgliad na teoriiu obucheniia v epokhu tsifrovykh tekhnologii [E-didactics: A new look at the theory of learning in the age of digital technologies]. *Obrazovatel'nye tekhnologii i ob-*

shchestvo [Educational technologies and society], 2013, vol. 16, no. 3, pp. 684–696. (In Russian)

11. Lozitskii V. L. Deviantnoe uchebnoe povedenie kak problema obespecheniia preemstvennosti obshchego srednego i vysshego obrazovaniia v usloviiakh tsifrovoi transformatsii [Deviant learning behavior as a problem of ensuring continuity of general secondary and higher education in the context of digital transformation]. *Universitetskii pedagogicheskii zhurnal* [University Pedagogical Journal], 2023, no. 2, pp. 12–17. (In Russian)
12. Lozitskii V. L. Preodolenie situatsii funktsional'no-deiatel'nostnogo razryva u sub"ektov uchebnoi deiatel'nosti v usloviiakh tsifrovizatsii obrazovaniia [Overcoming the situation of the functional-activity gap among subjects of educational activities in the context of digitalization of education]. *Adukacyja i vyhavanne* [Education and upbringing], 2023, no. 9, pp. 30–37. (In Russian)

Список литературы

1. Концепция цифровой трансформации процессов в системе образования Республики Беларусь на 2019–2025 годы : утв. Министром образования Респ. Беларусь 15.03.2019. – URL: https://drive.google.com/file/d/1T0v7iQqQ9ZoxO2IIwR_OlhqZ3rjKVqY-/view. (дата обращения: 18.06.2023).
2. Богуш, В. А. Цифровизация образования: проблемы, вызовы и перспективы / В. А. Богуш, Е. Н. Шнейдеров // Адукацыя і выхаванне. – 2021. – № 1. – С. 14–21.
3. Бутина, Е. А. Цифровизация образовательного пространства: риски и перспективы / Е. А. Бутина // Профессиональное образование в современном мире. – 2020. – № 10 (2). – С. 3695–3701.
4. Ворохобов, А. В. Цифровизация образования: актуальные тренды и философско-методологические проблемы / А. В. Ворохобов // Юридическая наука и практика: Вестник Нижегородской академии МВД России. – 2020. – № 1 (49). – С. 220–222.
5. Жук, О. Л. Актуальные направления развития образования и научно-педагогических исследований в условиях цифровой трансформации / О. Л. Жук // Педагогика. – 2020. – № 3. – С. 5–14.
6. Корзина, М. И. Роль образования в эпоху четвертой промышленной революции (социально-философский анализ) / М. И. Корзина // Манускрипт. – 2020. – № 13 (10). – С. 186–192.
7. Рабинович, П. Д. Цифровая трансформация образования: от изменения средств к развитию деятельности / П. Д. Рабинович [и др.] // Информатика и образование. – 2020. – № 5 (314). – С. 4–14.
8. Титаренко, Л. Г. Влияние цифровизации на учебно-воспитательный процесс: перспективы и риски / Л. Г. Титаренко // Вышэйшая школа. – 2022. – № 1. – С. 5–7.
9. Уваров, А. Ю. Трудности и перспективы цифровой трансформации образования / А. Ю. Уваров [и др.] ; под редакцией А. Ю. Уварова, И Д. Фрумина. – Москва : Издательский дом Высшей шк. экономики, 2019. – 342 с.
10. Чошанов, М. А. Е-дидактика: Новый взгляд на теорию обучения в эпоху цифровых технологий / М. А. Чошанов // Образовательные технологии и общество. – 2013. – Т. 16, № 3. – С. 684–696.
11. Лозицкий, В. Л. Девиантное учебное поведение как проблема обеспечения преемственности общего среднего и высшего образования в условиях цифровой трансформации / В. Л. Лозицкий // Университетский педагогический журнал. – 2023. – № 2. – С. 12–17.
12. Лозицкий, В. Л. Преодоление ситуации функционально-деятельностного разрыва у субъектов учебной деятельности в условиях цифровизации образования / В. Л. Лозицкий // Адукацыя і выхаванне. – 2023. – № 9. – С. 30–37.

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