

Scientific Herald of Uzhhorod University

Series "Physics"

Journal homepage: <https://physics.uz.ua/en>

Issue 55, 1314–1323

Received: 30.11.2023. Revised: 03.01.2024. Accepted: 10.02.2024



DOI: 10.54919/physics/55.2024.131st4

Development of managerial competencies of specialists of out-of-school education institutions by means of digital technologies in the conditions of distance educational inclusive environment

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Abstract

Relevance. The relevance of the study is due to the need to introduce the concept of digital literacy as a relevant structural component of managerial competencies in the professional training of specialists of extracurricular education institutions in connection with the growing demand for distance learning format and the need for work skills in an innovative environment.

Purpose. In this regard, this article aims to disclose the list of skills teachers of an after-school education institution should possess in the conditions of a distance educational inclusive environment. The set of skills presented in the study is complete, meets the criteria of a modern teacher, and also includes a method of assessing the management competencies of teachers.

Methodology. The leading method for researching this problem is system analysis, which allowed us to investigate the concept of digital literacy of teachers and the influence of the level of digital literacy on the results of learning in a distance format. In addition, the following research methods were used: the process of comparison, logical analysis, methods of synthesis and deduction, the method of classification, as well as the analysis of scientific sources.

Results. The article presents the results of the research in the form of a complex of inseparable and interconnected elements that convey the concept of managerial competencies of teachers in the era of digital technologies and include

Suggested Citation:

Vorona L, Babenko I, Lebedyk L, Barbinova A, Khomenko L. Development of managerial competencies of specialists of out-of-school education institutions by means of digital technologies in the conditions of distance educational inclusive environment. *Sci Herald Uzhhorod Univ Ser Phys.* 2024;(55):1314-1323. DOI: 10.54919/physics/55.2024.131st4

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knowledge, skills, and the right attitude to the use of technology by teachers in five main areas, namely: information management, communication, content creation, security, and problem-solving.

Conclusions. The materials presented in the article are a way of forming an innovative educational environment. They aim to create practical skills for specialists in extracurricular education institutions and representatives of the academic environment.

Keywords: professional development of teachers; digital didactics; inclusive educational environment; digital literacy of teachers; innovative learning environment; managerial competencies.

Introduction

Today, the concept of "management competencies of specialists in out-of-school education institutions" includes not only the ability to work with children, knowledge of child psychology, and possession of practical and theoretical teaching skills but also the ability to organize the educational process with the help of the latest technological tools, to include in the curriculum work with modern hardware and software and involve children in active participation in learning through their interaction with the teacher, other students and the digital technologies used during the learning process. In this way, it is possible to implement the concept of an innovative learning environment, which, in the conditions of distance education, is a new format of learning that provides the need for digital and informational innovations for both students and teachers. This study examines the concept of managerial competence from the point of view of the skills necessary for a specialist to work in a remote format, i.e., innovative learning environment and digital literacy in this work are considered essential components of the managerial competence of a specialist of an after-school education institution. Thus, further research is based on the need to investigate ways of forming and developing teachers' digital literacy as a relevant and integral structural component of the managerial competence of a modern teacher.

In recent years, both in Europe and around the world, innovative educational learning methods have been actively developed and implemented to develop an inclusive environment by creating digital information and an academic setting. The digitization of today's world has greatly influenced the implementation of information and communication technologies (ICT) in education, as they became even more in demand and began to be implemented during the global pandemic of COVID-19. Another critical factor in Ukraine's distance education market was the Russian-Ukrainian war. In this sense, ICT is a necessary tool for solving the above situations in all spheres of social development and contributing to the accelerated transformation of the way of learning in educational structures. Thus, the digital information and educational environment in extracurricular education should ensure the cooperation of all participants in the educational process using the Internet throughout the entire education period. This type of digital learning requires the active participation of both teachers and students in the process of implementing e-education, which became the reason for the need to increase the level of knowledge and skills necessary to work with digital technologies, including the Internet [1].

Previous studies on the development of an innovative environment in out-of-school education institutions

considered experts' positive and negative opinions regarding introducing innovative technologies into the learning process. The analysis of the article by M. Phillips [2] showed that critical thinking about the knowledge teachers need and the context in which they work is needed to understand the complexity of teachers' (non)use of technology. S. Yüceliyigit & N. Aral's [3] opinion on involving experts who would understand the effective use of technology by children was also reviewed and showed that only conscious adults could increase children's awareness of the purposeful use of technology, as in the study in question, most children reported, who feel happy and excited when using gadgets and feel nervous or bored about not having a device in their life. These feelings are a cause for concern among parents, teachers, and academics, as technology addiction can pose significant obstacles to quality distance learning.

In general, the concept of digital responsibility is quite relevant for researchers in modern education programs. In recent years, there has been a significant leap in digital knowledge, both in terms of quantity and quality, and the digital responsibility research reviewed by R.Sh.A. Albraim *et al.* [4] aimed to define the digital responsibility of the student and the teacher in the light of the use of digital technologies in the educational process. Examination of the results of the study showed that the digital responsibilities of the student and the teacher have no limitations except for the constraints imposed by the user of the educational process. Defining the role of the teacher in the light of digital technologies in distance learning and comparing it with the role of a traditional teacher was made in the work of M.T. Eid *et al.* [5]. Scientists have determined that the professionalism of the modern teacher depends on the ability to analyze situations and previous experiences, connect points of view and extract information to obtain results and recommendations. At the same time, S. Nopembri *et al.* [6] studied the experience of using information technologies and telecommunications in the process of distance learning during the COVID-19 pandemic. The results showed that teachers use hardware and software that already exist and communicate with their students using WhatsApp, Email, Instagram, and Facebook, as well as Google Classroom.

The considered works of Ukrainian researchers were focused on substantiating teachers' need for professional development in the conditions of distance education [7] and on the experience of introducing distance and blended learning in secondary schools of Ukraine [8]. The reviewed work of scientists M. Marienko & A. Sukhikh [8] showed a combination of different forms and systems of learning and the use of digital technologies (mainly within the framework of distance learning), while the research of O. Topuzov *et al.* [7] and colleagues suggested digitizing

the educational process to improve the professional competences of teachers and create an open learning environment.

Considering all of the above, this work aims to investigate ways of improving the managerial competencies of teachers of extracurricular education institutions in the conditions of distance learning, bearing in mind the formation of an innovative and inclusive environment for the harmonious and sustainable development of children.

Materials and Methods

This study was theoretical in nature and focused on studying factors in the development of digital literacy of specialists in extracurricular education institutions. Based on the need to use valid research methods, this work was carried out using the following methods: system analysis, comparison method, logical analysis, synthesis and deduction methods, classification method, and analysis of scientific sources.

The first stage of the research was carried out using the system analysis method, which was applied to study the managerial competencies of teachers and the influence of the level of digital literacy on the results of learning in a distance format. The result of the system analysis carried out in this study is presented in the form of a list of inseparable and interconnected elements that convey the concept of digital competence, which includes knowledge, skills, and the right attitude to the use of technologies by teachers in five main areas, namely: information management, communication, content creation, security, and problem-solving.

In the second stage of the research, a classification method was used, with the help of which the features of distance learning using digital technologies were highlighted in a category. This made it possible to focus further work on the study of those features that can be influenced by teachers from the point of view of their management competencies, namely: the innovation process; innovative content; interactivity.

In the third stage of the research, the method of logical analysis was applied. Its use is due to the need for a deeper understanding of the essence of the concept of an inclusive environment, the process of its creation, and adjustment. The application of logical analysis helped formulate the definition of the concept of "inclusive environment", describe the way of its formation, and provide practical recommendations for teachers who aim to create an inclusive environment in the conditions of distance learning.

During the fourth stage of the research, methods of comparison and deduction were used. With the help of the method of comparison, in this work, distinctive characteristics between the concepts of digital literacy and digital illiteracy were identified, which allowed further work to describe the leading digital skills specialists of out-of-school education institutions should possess. During the conducted research, the deduction method was applied to describe the methods of formation and development of digital competencies of specialists of out-of-school education institutions in the conditions of a distance educational inclusive environment.

The last stage of the work consisted of two processes: the use of the synthesis method and the analysis of scientific sources. With the help of the synthesis method, all parts of the considered system were combined into a single entity in the form of the analysis results and the initial data. In this work, the synthesis method was applied to organize information about the obstacles to implementing an innovative environment in the distance learning process and to describe ways to overcome them. For the completeness of the conducted research, the relevant section of the article provides the results of the theoretical analysis of scientific sources from the fields of pedagogy and education in the context of the involvement of digital technologies in the educational process, as well as distance learning. In recent years, world scientists and scientists from Ukraine have been researching the problem of implementing digital technologies into educational programs and are looking for ways to improve the development and support of modern methods of training future teachers using digital technologies.

Results

An educational environment that meets the criteria of an inclusive educational environment can be defined as one that helps in solving the problem by creating a comfortable environment for each child regardless of their individual characteristics. In addition, an inclusive learning environment should provide students with an incentive to gain relevant knowledge and experience, prioritize questions and scientific debate, allow children to express their thoughts and views freely, discuss concepts in detail based on the time available, and develop technology skills; inclusive learning environment allows the student to structure knowledge through active participation in the learning process. In this case, an inclusive learning environment will be formed by designing the environment according to the individual needs of each student, introducing humanistic narratives during teaching, and creating a tolerant environment through outreach. Thus, according to the nature of out-of-school learning, children will participate in the process based on their own interests and desires and follow the process with a high level of motivation. This approach will ensure that knowledge is presented to students in a natural environment and that meaningful and sustainable learning occurs [9]. The educational concept, which is based on the use of ICT to control, evaluate and support the decision-making process to create an innovative environment, is now widely used in the format of distance learning. However, most of the methods currently used by teachers to create innovative environments (for example, social networks, websites, and mobile devices) have an "unstructured" format, creating not structured databases but heterogeneous, unrelated files (documents/presentations/calendars) [10], which do not allow considering the curriculum built based on such files from the point of view of a classic educational environment.

A quality curriculum in the context of an inclusive after-school environment is culturally relevant, that is, one that is connected to the student's life and provides tasks that are more meaningful to him or her than typical textbook tasks. Thus, the environment in which students live is an excellent context for formulating different types of

curriculum tasks that would challenge and engage students in their solutions. Challenge is essential in the process of distance learning because students can lose motivation and get bored during a "routine" lesson, which can be the main reason for the lack of results from the educational process. Usually, the problem with completing the tasks arises when the student does not understand the critical procedural or algorithmic tools for further work. In this context, it is recommended to prefer more complex tasks that can be solved differently. This approach will make learning more exciting but not always easy. The main advantage of the proposed approach is the more active involvement of students with the simultaneous development of a diversity of thinking styles and approaches to learning [11]. It is also worth noting that the role of the teacher and the main goal of the work of the teacher is to involve students with different levels of knowledge in different conditions in the educational process and guarantee their academic and personal development, stimulate reasoning and teach strategies for solving not only the school but also everyday tasks.

Although the interaction of school and out-of-school education can be a promising strategy for bridging the gap between classical school education and other forms of learning, it is only one way to think about combining school students learning. The previous conceptualization of these connections was done in a broader sense, creating images of learning modes, networks, and ecosystems. The notion of ways to address the development of children's interest and engagement over time can be extended to describe perspectives on engagement with learning opportunities in various programs and organizations, both in schools and out-of-school settings. One way to support cross-contextual learning and equitable access to learning experiences is to create a system of organizations (such as libraries, museums, and schools) and individuals (educators and community activists) that work cooperatively to create opportunities for students to learn within and beyond traditional classroom experiences by developing innovative practices and facilitating teacher professional development [12] – conceptualizing learning opportunities as networks draw attention to the connections between people through programs, places, and resources in the service of expanding learning opportunities for children and youth. The use of distance learning technology requires specialized hardware and software for efficient and timely transmission and receipt of data by all participants in the learning process. Any devices/programs that are consistent with the learning environment can be used to ensure a smooth learning process [13]. Peculiarities of distance learning using digital technologies: public value; easy learning process; innovation process; innovative content; interactivity; accessibility; flexible schedule; the possibility of individual or collective activity.

The distance learning process is characterized by a large number of technical tools that improve the visibility of learning, allow you to convey complete and reliable information to students, develop and support their activity and independence, exercise control and teach independence, increase interest in classes, help to perceive what has been learned and create a variety of learning situations, reducing fatigue [14]. Child psychology

research can provide tools helpful in expanding the concept of inclusive environments by engaging the concept of active learning. Using a game (or a digital game) as a mediator in the active research process of a child's knowledge of the world can be considered one of the most powerful tools in this sense. The use of new technologies based on exploratory behavior and digital play is gaining a more comprehensive range of applications over time. Gaming involves learning, and this feature can be used to make distance learning games helpful in imparting knowledge. It is well known that educational games motivate and lead to the acquisition of experiences that children did not have before [15], which can be used during lessons in a distance learning format. In addition, it is also a more open and flexible form of learning - based on methods that are easier for students to understand and apply. This teaching method is recommended to be implemented with the help of specialized websites, mobile applications, scans from physical media, etc.

To use digital technology effectively, any person needs digital literacy, which includes knowledge, skills, and the right attitude to use technology in five areas, namely: information management; communicative competencies; content development; digital security management; problem-solving. Thus, to develop managerial competencies, teachers (especially in the conditions of distance learning) should apply these areas of digital literacy in their practice. These areas of digital literacy can be indicators for measuring the effective use of innovative technologies, as analysis of these indicators can provide data on how teachers work with technology [16]. Skills that teachers of an innovative environment of an out-of-school education institution should possess:

- finding and evaluating authentic web content;
- setting up a digital presence for students (e.g., blog, social media, website);
- using opportunities of social networks for professional development;
- creation of a digital portfolio and its distribution among interested persons;
- using various learning methods based on web tools (for example, project-based learning, inquiry-based learning, game-based learning);
- creating visually appealing content;
- efficient internet search;
- selection and distribution of educational resources;
- creation, editing, and distribution of multimedia content;
- establishing contact with other teachers of extracurricular education institutions and sharing experiences.

In the process of acquiring the skills described above, the following obstacles may arise:

- insufficient technical equipment;
- equipment failure and technical support difficulties;
- obsolete equipment;
- lack of understanding of how to work with new technologies;
- lack of experience in using digital technologies during classes;
- conservatism of specialists;
- lack of time in the work process for mastering digital technologies;

- inflexible work schedule.

In order to overcome the above-listed obstacles to the implementation of an innovative environment in the distance learning process, it is necessary to take several measures, which can be attributed to the following:

- teacher training and formation of relevant skills in students and teachers;
- appropriate training organized based on higher educational institutions or advanced training courses;
- motivating teachers to self-study and professional development;
- exchange of experience between teachers;
- investment/allocation of additional funds;
- development of a plan for the implementation of digital technologies.

Teachers' managerial competencies should include a variety of skills related to working with digital technologies, such as personal, technical, and intellectual (digital) skills needed to deliver digital distance learning. The experience of professional development programs for education workers has shown the following skills in which teachers often have insufficient experience or knowledge:

- using open digital resources to create a digital educational environment;
- use of digital technologies during lessons;
- mastering the methods and techniques of creating a feedback system using digital technologies;
- pedagogical communication skills during distance learning;
- ensuring ethics and information security on the Internet during distance learning [17-20].

In this context, in order to ensure the integration of modern technologies in the educational process, teachers need to be trained and supported so that they feel confident in the process of integrating digital technologies into their work, both from the point of view of active citizenship and as professional development perspectives in the format of teacher training or on advanced training courses. In addition, it is assumed that the instructional model used to train teachers will be used by them with their students. This transfer of skills is called isomorphism [18; 21; 22]. It should also not be forgotten that educational results depend on the following: the professionalism of the teacher, the abilities of the child, the involvement of parents, the quality of feedback, and the organization of a safe and well-organized learning environment. At the same time, the right to independently choose programs, techniques, and methods and tutoring support often do not have a sufficient impact on learning results [23-25].

Efforts to integrate technology into the educational process should be systematic, and teacher training programs should take place in a collaborative environment. Teacher training models should be based on communities that provide the ongoing support and resources teachers need to integrate digital technologies, thereby enhancing managerial competencies. When technology-experienced teachers form a community of practice, they support continuous technology learning and strengthen the learning process. Hence, institutions need to examine their structure, in which teachers often work in isolation and react defensively to innovation. Strong professional communities that foster a habit of inquiry and develop leadership need to be developed to help sustain the impact

of change, as it is easier for a community to integrate educational technology into an ongoing self-learning process.

Discussion

Over the past two decades, European countries have invested large sums of money in digital technology for educational purposes, hoping that increased use of information technology will lead to improved academic performance. In 2000, the Organization for Economic Cooperation and Development (OECD) initiated the creation of the Program for International Student Assessment (PISA), which was supposed to assess students' competencies in reading, mathematics, and natural sciences [26; 27]. Since then, many fifteen-year-old students have been tested every three years in many countries. If the use of information technology is beneficial to learning and academic achievement, it can be expected that PISA results should increase with the use of information technology [28]. However, the research of scientists A. Bartolome & K. Steffens [19] considered in the course of the work says this is not so. The researchers found a non-linear relationship between the use of information technology and PISA results, which means that students who actively use information technology tend to perform poorly in PISA studies. To establish the reasons, the authors analyzed PISA data from 2009. Their idea was that there is no simple cause-and-effect relationship between using information technology and PISA results [29]. In the course of the work, the authors assumed that the family environment, part of which may be the use of information technologies, affects academic achievements in general. The results of the considered research indicate the presence of a large number of components in the level of academic success of the student, ways of improving one of which, namely, the professional competence of the teacher, are presented in the corresponding section of the work.

The research of T. Male [20], which was considered during the analysis of scientific literature on the use of digital technologies in education, claims that the availability and capabilities of digital devices in the modern era can transform the usual pedagogical model of the learning environment in schools, colleges, universities, and other educational institutions. Institutions, including extracurricular ones. Thus, the combination of different ways of accessing the Internet using a stationary computer and a mobile device allows teachers and students to use the opportunities of the new digital era and form an innovative environment even in a distance learning format [30-32]. They are combining the availability and capabilities of digital devices with the methods described in the author's research to improve the effectiveness of teachers and guarantee improved learning outcomes. It outlines the prospects for implementing the principles of an innovative environment.

According to scientists J. Maksimovich & N. Dimich [21], the competence of teachers in the use of modern information technologies in extracurricular education refers not only to their individual skills but also requires systemic competence, which involves the mutual cooperation of individuals, and groups and institutions for joint participation in learning, reflection and further

creation of an innovative modern environment for children's education. The essence of the use of digital technologies in the educational process is to change the role of the teacher and the student, to change the resources that are used, and to change the nature of the teacher's instructions that are given to students through technology [33-35]. Comparing these results with the results of the conducted research, it can be said that common opinions regarding the development of teachers' professional skills since the recommendations presented in the study relate not only to the improvement of the material and technical base but also to the professional and individual qualities of teachers, teaching methods, which confirms the importance of the concept of uniform and multifaceted improvement of the educational process.

According to the results of an experimental study by U. Tjijombo [22], which concerned the use of technology in distance education, it can be said that distance education has the potential to set a high bar in terms of virtual educational experience. 1250 second- and third-year students took part in the scientist's research, who evaluated various elements of distance learning. The effectiveness of the use of distance electronic courses was positively assessed by almost all interviewees (95.6%); they noted that the advantage of this type of learning is that it allows students to learn material and complete assignments from anywhere and at any time. According to the students, among the materials of electronic courses that helped to create a positive learning experience were the most diverse forms of tasks, classes, lectures, and communications. Students also drew attention to the fact that the e-course contains many additional materials in the form of websites, e-textbooks, training aids, etc., which helped to increase learning effectiveness [36]. More than 85 percent of students cited the distance learning format as an advantage, allowing access to any course. Any mobile device with Internet access can be used from anywhere [37]. As it turned out, the student's psychological well-being is also crucial during distance learning. When performing control tasks, 57% of respondents reported a decrease in anxiety (for example, during tests and assessments).

In addition, published responses show that distance learning helps students improve their independent work skills. A student can choose how many times he or she wants to listen to the same module or course section. During such courses, students noted the possibility of interaction not only with the teacher (student-teacher interaction) but also with each other (student-student interaction) during the entire period of study. At the same time, 84% of respondents noted that integrating distance learning into the educational process is just beginning, and only 16% noted that distance learning technologies are used widely enough. This means that the ability of distance learning to increase the competitiveness of a higher education institution has not yet been fully realized. The same can be said about out-of-school education since often the process of introducing innovations in this field can lag behind the same process in schools or higher education institutions due to the lack of state control of the implementation process of digital technologies, as well as the lack of methodological guides for teachers of out-of-school educational institutions [22; 38]. Extracurricular educational activities began to develop primarily in the

field of natural sciences. However, extracurricular educational activities continue to diversify in all areas of learning at an increasing pace. Sports, health, art, music, and even religious education all include extracurricular activities [39]. Reading, writing, language learning, reading poetry, theater and literature also increase children's readiness to participate in learning in this field in an out-of-school learning environment. Recently, STEM (science, technology, engineering and mathematics) activities in the fields of technology, engineering, and mathematics have begun to develop in ways that encompass extracurricular learning [40].

Scientists Y. Bolat & M. Koroğlu [23] call the primary educational function of the extracurricular educational environment the possibility of acquiring knowledge without excessive effort. In their study of the Extracurricular Learning Adjustment Scale, they state that extracurricular learning aims for the student to learn by experiencing, doing, and seeing. Scientists have established that those extracurricular educational activities have a positive effect on the formation of students' skills in studying natural sciences and solving mathematical problems. Extracurricular education provides the organization of education with multidimensional components and multifacetedness [41]. Extracurricular learning reflects the understanding of activities in the case when the student is actively involved in the learning environment. In this context, out-of-school learning encompasses a valuable learning process that should be used. The principles of distance learning presented in work meet the criteria of the student's interest and involvement in the educational process. One of the methods considered in the course of the study to increase the efficiency of students' acquisition of knowledge is a game to which the principles of experience, action, and vision can be easily applied, as well as the active involvement of the child in the educational process, which as a result can significantly facilitate the process of acquiring knowledge. Also, the given description of out-of-school education guarantees inclusiveness for children since the organization of education with the help of multidimensional components (i.e., methods, curricula, activities, approaches, etc.) contribute to the inclusion of all children in the educational process and provides an individual approach to the needs of each student.

S. Vossoughi [24], in study of access and equity in after-school education, considers the necessary factors for the further development of this educational format. One such factor is the need for much more significant investment in after-school programs. These investments should prioritize supporting staff who do the day-to-day work of developing and delivering youth programs through appropriate compensation, professional development, and the recruitment and retention of educators from diverse cultural backgrounds and backgrounds. Currently, out-of-school education institutions' employees perform various roles as teachers, mentors, and consultants. Investments in professional development should include both professional learning and lesson preparation time. Time for debriefing and reflection is critical to collectively identifying and addressing inequities that contribute to inclusive learning environments [42]. According to the author, the long-term social connections identified in the literature as

fundamental to positive youth development deserve to be protected and supported through more excellent teacher support. Thus, investing in extracurricular education can not only play a critical role in the academic development of youth but also serve as a method to develop students' social, emotional, and cultural skills [43]. The issue of investments in extracurricular education in Ukraine was not considered during the research, but it requires the fastest possible study in the future.

Conclusions

In the course of the research, the authors concluded that the process of developing the managerial competencies of specialists in extracurricular education institutions using digital technologies in the conditions of a remote educational, inclusive environment should be based on the development of digital literacy of all participants in the educational process, namely teachers, students, and parents. The obstacles to implementing an innovative environment in the distance learning process and ways to overcome them, given in the study, reveal the main factors of digital illiteracy, among which the psychological unpreparedness of teachers to implement innovations in their work process can be highlighted. The digital skills that a teacher must possess to create an innovative educational process in a distance format were also considered, with the help of which the teacher's digital literacy level can be determined. In addition, the creation of an innovative environment from the point of view of distance learning should be based on the principles of inclusiveness, namely, guaranteeing the possibility of

using various digital tools and resources to preserve the effectiveness of the educational process.

The questions considered in this study also related to methods of improving the quality of distance learning. The study revealed the problem of a weak connection between the curriculum and the environment in which children are, which causes students to lose interest and further reduces academic results. The proposed solution to the described problem concerns reformatting tasks by children's age/class interests. Taking into account all of the above, the authors recommend that future studies focus on the development of a program investing in the development of digital literacy of both practicing teachers through advanced training courses and future teachers through the integration of digital technologies into the educational program of higher education institutions. The consequence of these actions will be the formation of a community of teachers who will have digital skills not only for the performance of professional duties but also for further self-education and transfer of experience with the help of digital technologies, which will allow bringing the skills of teachers to a qualitatively new level.

Acknowledgements

None.

Conflict of Interest

None.

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Розвиток управлінських компетентностей фахівців закладів позашкільної освіти засобами цифрових технологій в умовах дистанційного освітнього інклюзивного середовища

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Анотація

Актуальність. Актуальність дослідження зумовлена необхідністю впровадження поняття цифрової грамотності як актуальної структурної складової управлінських компетентностей у професійну підготовку фахівців закладів позашкільної освіти у зв'язку зі зростаючим попитом на дистанційний формат навчання та потребою у навичках роботи в інноваційному середовищі.

Мета. У зв'язку з цим метою даної статті є розкриття переліку навичок, якими повинні володіти педагоги закладу позашкільної освіти в умовах дистанційного освітнього інклюзивного середовища. Представлений у дослідженні набір умінь є повним, відповідає критеріям сучасного педагога, а також включає методику оцінювання управлінських компетентностей педагогів.

Методологія. Провідним методом дослідження даної проблеми є системний аналіз, який дозволив дослідити поняття цифрової грамотності вчителів та вплив рівня цифрової грамотності на результати навчання в дистанційному форматі. Крім того, були використані такі методи дослідження: процес порівняння, логічний аналіз, методи синтезу та дедукції, метод класифікації, а також аналіз наукових джерел.

Результати. У статті представлені результати дослідження у вигляді комплексу нерозривних і взаємопов'язаних елементів, які передають концепцію управлінських компетентностей вчителів в епоху цифрових технологій і включають знання, навички та правильне ставлення до використання технологій вчителями у п'яти основних сферах, а саме: управління інформацією, комунікація, створення контенту, безпека та розв'язання проблем.

Висновки. Представлені у статті матеріали є одним із способів формування інноваційного освітнього середовища. Вони спрямовані на формування практичних навичок у фахівців закладів позашкільної освіти та представників академічного середовища.

Ключові слова: професійний розвиток вчителів; цифрова дидактика; інклюзивне освітнє середовище; цифрова грамотність вчителів; інноваційне навчальне середовище; управлінські компетенції.