PROBLEMS OF TEACHER TRAINING
ПРОБЛЕМИ ПІДГОТОВКИ ВЧИТЕЛЯ

The use of modern ICT in distance training of future educators for professional self-development

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Abstract

The article proves that in the process of forming future teachers' self-development skills in distance learning, special attention should be focused on an individual approach to each student, their initial professional and pedagogical abilities, psychological capabilities, the originality of the thesaurus, as well as on the psychological and pedagogical features of forming readiness for professional self-development. It emphasizes the necessity for modern teachers to be theoretically and practically capable of analyzing their professional capabilities and, based on this, to formulate a program for their further professional growth at any stage of their professional activity. The article analyzes the peculiarities of using modern ICT in the distance preparation of future educators for professional self-development, distinguishing the means of telecommunications, methods, techniques, and forms of work. It examines the independent work of students in two aspects: at the reproductive level (working on oneself without any assistance but according to tasks or routines defined by schedules, habits, the instructor's requirements, and societal needs; acting according to the accepted motivational setup; developing acquired knowledge, skills, habits) and at the productive level (working on oneself not by template, but with attempts at novelty, risk, creativity, inventiveness, interest, and the need for self-improvement; introducing changes in content, organization and outcomes of activities). The article substantiates the peculiarities of organising an information and educational environment that allows teachers to more effectively implement ICT and Internet resources at different stages of the traditional education system, create online classes, integrated classes, develop and use their own software and digital educational resources for distance learning.

Keywords: future educators, professional self-development, distance learning, information and communication technologies, educational environment

Використання сучасних ІКТ у дистанційній підготовці майбутніх педагогів до професійного саморозвитку

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Анотація

У статті доведено, що в процесі формування умінь саморозвитку майбутнього вчителя під час дистанційного навчання особлива увага має зосереджуватись на індивідуальному підході до кожного студента, його вихідних фахових і педагогічних здібностях, психологічних можливостях, своєрідності тезаурусу, а також власне на психолого-педагогічних особливостях формування готовності до професійного саморозвитку. Наголошено на необхідності того, щоб сучасний вчитель теоретично та практично має бути здатний проаналізувати власні професійні можливості й на цій основі сформувати програму власного подальшого професійного зростання на будь-якому етапі професійної діяльності. Проаналізовано особливості використання сучасних ІКТ у дистанційній підготовці майбутніх педагогів до професійного саморозвитку; виокремлено засоби телекомунікацій, методи, прийоми та форми роботи. Розглянута самостійна робота здобувачів у двох аспектах: на репродуктивному рівні (робота над собою без будь-якої допомоги, але за завданням або режимом, визначеним розкладом, звичкою, вимогою викладача, потребою суспільства; дія за прийнятою мотиваційною установкою; розвиток набутих знань, умінь, навичок, звичок) та на продуктивному рівні (робота над собою не за шаблоном, а з пробою новизни, ризику, творчості, винахідливості, інтересу, потребою до самовдосконалення; внесення змін за змістом, організацією та результатом діяльності). Обґрунтовано особливості організації інформаційно-освітнього середовища, яке дає змогу викладачам більш ефективно упроваджувати ІКТ і ресурси мережі Інтернет на різних етапах традиційної системи навчання, створювати Інтернет-заняття, інтегровані заняття, розробляти й використовувати власне програмне забезпечення та цифрові освітні ресурси дистанційного навчання.

Ключові слова: майбутні педагоги, професійний саморозвиток, дистанційне навчання, інформаційно-комунікаційні технології, освітнє середовище

Statement of the problem. The identification of personal qualities of future educators, the specific features of their professional activity and development, as well as the formation of self-development skills, are currently among the primary directions for improving pedagogical education. The preparation of future teachers should be structured as a system of conditions to support their professional growth and self-development (Frytsiuk, 2016). It is essential that modern teachers be both theoretically and practically capable of analyzing their own professional capacities and, on this basis, developing a program for their further professional growth at any stage of their career. This can be achieved by fostering a readiness among future teachers for professional self-development. However, many issues remain unresolved in teacher preparation and there are still numerous theoretical challenges, particularly in preparing future teachers for professional self-development, which has not received adequate attention. This is especially relevant in the context of distance learning.

In the monograph "Modern educational technologies in the digital reality", published in 2024 and edited by Academician Hurevych (2024), it is noted that "digitalization is significantly transforming existing jobs, creating a need for professionals to acquire new skills (soft skills) to tackle current tasks.

This transformation demands continuous professional development, lifelong learning and the acquisition of skills and competencies for using new software" (Modern educational technologies in the digital reality, 2024). This applies to future teachers as well.

It is worth noting that the megatrends of the last decade show that the world of work is becoming increasingly global, people want to work, learn, communicate and play whenever and wherever they choose. The Internet is turning into a global mobile communication network and cloud technologies are facilitating the rapid growth of online video and multimedia. The world is becoming more open – open content, open data, open resources and open online courses are spreading widely. All of this also applies to the professional training of future educators.

We believe that in order to form the readiness of future teachers for continuous professional self-development, it is essential to stimulate their independent educational and cognitive activities through modern ICT (Frytsiuk et al., 2022).

The Analysis of Sources and Recent Research. The following scholars have made a significant contribution to the study of the problem of using ICT in the training of specialists: V. Bykov, R. Hurevych, M. Zhaldak, M. Kademia, M. Koziar, A. Kolomiets, S. Sysoieva, and others (Frytsiuk, 2016; Gromov et al, 2020; Hubina et al, 2022).

At the same time, it should be noted that the professional self-development of future teachers has become an important issue in pedagogy and is examined in the research of many scholars. Among domestic studies, noteworthy are the works of P. Kharchenko (formation of readiness for professional self-development in future music teachers); T. Stritievych (development of professional self-development skills in future art teachers); T. Tykhonova (pedagogical conditions for the professional self-development of future computer science teachers) and others. However, the issue of preparing students of pedagogical higher education institutions for professional self-development in new socio-economic conditions, particularly in the context of distance learning, requires separate study.

The Purpose of the article is to analyze the features of using modern ICT in the distance preparation of future teachers for professional self-development, highlighting telecommunications tools, methods, techniques and forms of work.

The Results of the Research. It is worth noting that the "Book of National Education of Ukraine" (edited by V. Kremen) asserts that the primary responsibility for continuous professional development rests on pedagogical and scientific-pedagogical staff, whose role is to sustain and enrich the country's human resources. This category of personnel is specifically required to organically integrate the various components (formal, non-formal, and informal) of the pedagogical and scientific-pedagogical education system. Additionally, the acceleration and intensification of societal changes are reflected in the complexity and rapid informatization of all aspects of life, economic growth and the demand for specialists with research-innovation skills. This calls for an enhanced role of higher (master's, doctoral) formal educational levels (and scientific-pedagogical staff) and encourages the development of a comprehensive system of non-formal and informal education, particularly adult education. For instance, in thirty countries of the Organization for Economic Cooperation and Development, only one percent of the population over the age of 40 remains in formal education aimed at obtaining a certain educational level (according to the International Standard Classification of Education).

We believe that in the process of developing self-improvement skills in future teachers – currently one of the main directions in enhancing pedagogical education – special attention should be focused on an individual approach to each student. This includes their initial professional and pedagogical abilities, psychological capacities, unique thesaurus, as well as the psycho-pedagogical characteristics involved in forming readiness for professional self-development. Therefore, one of the main tasks is to provide students with psychological tools that enable them to express their individuality. It is essential to stimulate and develop students' ability to independently reflect on issues and devise methods and approaches for solving them through individual cognitive exploration.

The significance of students' independent work during distance learning in the context of our research is undeniable, as its primary goal is to develop independence as a personal trait, which is essential for a student's ability to organize and carry out their activities without external guidance and assistance. In this regard, it is important for professional self-development to devise a strategy for forming a system of skills and abilities for independent work among future educators, including through the use of ICT.

It is worth noting the possibility of considering independent work, including remote work, in two

aspects (reproductive and productive). Independence at the reproductive level means working on oneself without any assistance but according to tasks or schedules set by a timetable, habit, teacher's requirement or societal need; a habitual attitude towards daily activities, the external environment, and oneself; acting according to an accepted motivational stance; and developing acquired knowledge, skills, abilities and habits. Independence at the productive level means working on oneself not according to a template but with an element of novelty, risk, creativity, ingenuity, interest and a need for self-improvement; making changes in the content, organization, and outcomes of activities; on one hand, complicating the content of activities, and on the other, simplifying their nature to improve results (Mukoviz, 2008). We believe that, at the productive level, ICT has significant potential for organizing independent work for future teachers, especially during remote learning, aimed at developing their readiness for continuous professional self-development.

Hurevych and Kademiia (2005) distinguish the following types of ICT: data processing technology – for solving well-structured tasks with the aim of automating some routine, repetitive operations (using such ICTs as data collection, processing, and storage, as well as creating reports and queries); office automation technology – for automating and telecommunication support of a specialist's work (using such computer technologies as word processors, spreadsheets, databases, graphic editors, management programs and modern computer telecommunications); management technology – for solving less structured tasks related to assessing the state of an object, identifying causes of changes in the state of the studied object, and analyzing possible solutions and actions (using such ICTs as a database with a system of regular or special reports); decision support technology – for creating information support in the process of solving creative tasks (using such ICTs as a database, multimedia components, etc.); expert systems technology – for imitating the work of an expert in a specific subject area based on artificial intelligence (using such ICTs as databases and knowledge bases) (Hurevych, Kademiia, 2005).

In a distant work with students, it is worth actively using the Internet: email, electronic textbooks, dictionaries, reference books, encyclopedias, teleconferences, blogs, chats, etc.

To foster the readiness of future teachers for professional self-development, it is advisable to encourage senior students to participate in pedagogical online marathons and webinars conducted by the "Osnova" publishing group, which provide opportunities to enhance their professional level. We consider such events and others effective in terms of activating the professional self-development of future educators.

To participate in the seminar, future participants need to select a topic or several topics they would like to listen to and fill out an online application.

In general, participants in the educational online marathon have access to several dozen thematic webinars, the most popular of which include: "Developing competencies as a strategy for life success", "Technology for developing critical thinking: Bloom's taxonomy and multilevel questioning", "Become the change that will change the world around you: shaping your own change trajectory", "How to become a competitive teacher", "Practical use of modern pedagogical technologies", "Web quests in extracurricular activities", "Creative projects in lessons", "Key competencies in the educational process", "Generational theory", "The art of creating presentations: a review of services", "Making the lesson come alive: time-saving technologies in action", "Motivating learning through multimedia game exercises", "Forming critical thinking in the lesson", "Technology of individual cognitive strategies", "Electronic books to assist teachers" and more.

The educational opportunities of distance learning should be realized through the following telecommunication tools: E-mail; web forums; thematic newsletters, electronic journals, Usenet conferences; chat; video conferencing; ICQ; WWW (navigating the Internet); active channels for subscribing to websites; web services: web conferences, bulletin boards, registration forms, tests; mobile Internet, etc.

Students should be encouraged to use cloud computing technologies that allow them to remotely use data processing and storage facilities. The last ones are stored on the server of the cloud service and can be accessed from any place with the Internet and a computer. The most commonly used cloud services are the following: Microsoft Live@edu cloud platform (the services of this platform include: email, virtual whiteboard, website creation and maintenance, creation and editing of Word, Exel, Power Point documents) and Google Apps Education Edition cloud platform (Gmail, Google Calendar, Google Drive - storage for your own files, Google Docs - a service for

creating documents, spreadsheets, presentations, Google Sites - allows you to create websites using built-in templates) (Drone, 2017).

It is significant that teachers and students note the following advantages of Google services: free of charge; one account - all services; familiar interface; cloud storage; minimum access requirements; collaborative document creation; history of all changes; differentiation of access rights; support and development; user community.

The information and educational environment created in higher education institutions (HEIs) plays a significant role in the use of ICT. The organization of this environment allows educators to more effectively implement ICT and Internet resources at various stages of the traditional education system, to create online classes, integrated lessons, to develop and use their own software and digital educational resources, and to utilize media libraries, among other things. For students, such an environment enables them to: use Internet technologies in organizing additional education; utilize computer technologies to prepare for classes; engage in practice tests; participate in online competitions and olympiads; discuss relevant issues on forums, in Skype, on the educational institution's website; prepare intellectually and psychologically for further education; learn to work with information presented in various forms, select and systematize scientific material, create presentations and reports on assigned topics, etc.

Conclusions. Thus, the activation of independent learning and cognitive activity of future teachers by using information and communication technologies is a system of interaction between the student and the educational material by means of ICT, which, provided that it is rationally organised by the teacher, ensures high-quality learning of the material, promotes the formation of independent thinking, actions and attitudes to the proposed task, resulting in the active acquisition of new or activation of already known knowledge, development of new skills, which positively affects the formation of future teachers' readiness.

The study of the possibilities of the information and educational environment of higher education institutions in developing the readiness of future teachers for professional self-development is promising for further research.

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