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DEVELOPMENT OF DIGITAL COMPETENCE OF STUDENTS OF HIGHER EDUCATION INSTITUTIONS IN MIXED EDUCATION

The article highlights the issue of developing skills of digital competence of humanities students in the context of blended learning. The development of digital competencies aims to improve the usual skills of users to the level of professionals. The article draws attention to the fact that the current generation of students is a generation that grew up in the digital space, so certain skills for these students are programmed in their minds. Blended higher education allows students to better master the chosen areas of training through the digitalization of education. Due to the digitalization of education, students gain deeper knowledge of disciplines that are conducted in electronic format than those disciplines that are conducted in classrooms. The analysis of the survey showed that most students are more receptive to the information provided to them by digital technology. Research has shown that humanities students need more time to learn new digital programs and resources than technical students. The main condition for the development of information and digital competence of pupils and students is the appropriate training of teachers and lecturers. The National Report on the State and Prospects of Education Development states: "Determinant for the effective implementation of ICT in education and the development of the information and educational space is the formation of information and communication competences of pedagogical, scientific and pedagogical workers and management personnel of education by familiarizing them with current developments in the field of ICT , improving the qualifications of pedagogical workers, workers of methodical services, educational institutions, scientific institutions and education management bodies. Therefore, today's system of education and science must undergo radical digital changes and correspond to the global trends of digital development in order for every person to successfully realize his potential. The largest contribution to the study of digital competence of citizens in general and digital literacy of educators was made by the European Scientific Community. As a result, such documents were presented as the Digital Competence Framework: Citizens; consumers; teachers; educational organizations. The author highlights both challenges and concerns brought on by the rapid advancement of information technology and the potential for their integration into the educational process. The risks associated with using search engines, browsing websites, segmenting information, and gathering it are also covered by the author.

Key words: *digital competence, blended learning, higher education institutions, informatization.*

Statement of the problem in a general form and its connection with important scientific or practical tasks.

In today's conditions, changes in the scientific environment are rapid and unpredictable. Technological innovations undoubtedly affect all areas of activity. The education system is forced to constantly improve, because the quality of work in this area depends on the functioning of all parts of the country. Children of generation "Z" (digital generation), who are partially dependent on information technologies, are now starting to study at universities. Scholars call modern society "informational."

The system of formation of professional competence of future specialists consists of four components: purpose, activity, informativeness and efficiency, which allow to take into account the educational process as the most important element of training highly qualified specialists. The growing digital and decentralized economy of the 21st century requires not only a new approach to doing business at the macro level, but also new skills to succeed at the micro level.

Some of these skills have always been useful for professional development, but now they are needed. Others require a completely new approach to effective performance. In fact, digital competence is often one of the skills needed for the average citizen to learn and navigate the digital knowledge society. This definition illustrates the full inclusion of numerous skills and abilities that are of general importance to the area of competence that needs to be provided at the macro level of the average citizen in various spheres of society. These industries are among the most fundamental competencies needed to succeed in today's rapidly changing economic environment.

The challenge for educators is to go beyond thinking about information technology as a tool or "platform with information technology support." Instead, they need to think about how to cultivate students' ability and confidence to succeed both online and offline in a world where digital media is ubiquitous. In this regard, a comprehensive approach to solving the problem of digital competence in the training of specialists at the university is an urgent

problem within any discipline. Attention is paid to practical work on the implementation and control of the effectiveness of the pedagogical system and the formation of digital competence of students in terms of training. The development and implementation of a pedagogical system for the formation of digital competence of students in the learning process, as well as the conditions of presentation should include targeted, activity, informative and effective components. Competence as a concept implies a meta-subject scheme of formation. Digital competences are no exception.

The aim of our study is to determine digital competencies and their development in students of higher education institutions while studying in a mixed system.

Discussion.

To gain an understanding of the development of digital competence skills, we conducted a survey of students of pedagogical universities. To study this problem in more depth, we involved students from the first to the fourth year of humanities. As you know, students of humanities are more difficult to understand the latest technical means that are offered to them while providing a mixed-type educational process. Therefore, students must be ready for the successful perception of an innovation.

1. Cognitive abilities. They will remain relevant in digital philology, but may move to a new level unknown to contemporaries.

2. Special knowledge or humanitarian skills (language skills, knowledge of international relations) required for a particular market, industry or enterprise.

3. Competences related to the development of growth thinking. These include the agility, resilience, curiosity and love of learning needed to stay relevant, adapt, specialize and move into a new field of knowledge.

New digital skills will focus on abilities that people can acquire at any age and hone over time. Preparing the next generation of workers for a successful start in international relations using digital technologies requires the development of critical skills at an early stage and the encouragement of lifelong learning at every stage of life. The training of specialists who meet the current needs of employers entails the search for innovative methods of professional training of students.

Today, we take it for granted that people know how to use IT skills, watch something online, or write emails, but many still don't know how to do it. Therefore, for the movement in the framework of digitalization should pay attention to this aspect of the competence of the future specialist in the framework of professional educational programs.

Taking into account the above, it is possible to conditionally group the declared digital competencies at three levels:

1. Basic includes the following competencies: digital literacy, focus, arithmetic, reading comprehension, self-efficacy, working memory, writing.

2. The average involves the basics of employment, time management, prioritization, sequence of actions.

3. The level of specialist includes, in addition to those listed in the first two, also business behavior and protocol, the correct job search (for example, writing a resume and interviewing skills).

Technology and data skills are no longer the sole responsibility of experts. 85% of respondents believe that opportunities to use digital and latest technologies will remain and even become critical in the next five years. Almost all professions and businesses will have a digital component in the future. Business leaders have recognized the importance of analyzing basic data and expect the number of jobs that require these skills to increase by 30% over the next five years.

Using project-based or inquiry-based learning as a tool to increase student interest is key to developing a set of competencies. Project-based learning is really at the heart of learning new digital skills right now. Traditional learning models are too passive to develop such skills. The program should include long-term practice to create memorable mental models.

Analysis of recent research and publications. The works of such authors as E. Zhelnova, O. Krivonos, V. Kukharenko, M. Nikitina, A. Stryuk, Y. Trius, G. Cherednichenko, L. Shapran and others are devoted to the introduction of the model of blended learning in the education system. C. Graham, S. Moebs, S. Weibelzach, D. Painter, and R. Schenk also addressed the issue of blended learning. However, the theory of blended learning in higher education needs further research. Information technology has significantly changed education in many countries over the past few years. It is almost impossible to imagine a modern educational process without social services. New pedagogical approaches have appeared, mass open distance courses, thanks to which hundreds of thousands of students study for free. Among modern approaches to learning, the leading place is occupied by blended learning, the first mention of which abroad dates back to 1995.

According to domestic authors A. Stryuk, Y. Trius, V. Kukharenko [2, p. 9], blended learning is a purposeful process of acquiring knowledge, skills and abilities in the integration of classroom and extracurricular educational activities of the subjects of the educational process based on the introduction and mutual complementing the technologies of traditional, electronic, distance and mobile learning in the presence of student self-control over the time, place, routes and pace of learning.

A survey of more than 50 students of the Pedagogical University in the field of international relations showed the following distribution of opinions on the essence of blended learning [7, p. 15]:

• curriculum that combines full-time and e-learning – 20%;

• educational activities containing a range of formats and media – 35%;

• strategic approach, which provides a wide range of educational initiatives – 20%;

• other – 25%.

Nowadays, many universities organize blended learning as a mastering of a number of courses.

Sloan Consortium (an institutional and professional organization dedicated to the integration of Internet education in higher education) identifies blended (hybrid) courses as a result of integrating online courses (30% -70% of the learning process) with traditional classroom activities. according to the planned, pedagogically tested technological approach [7, p. 60].

Blended courses can be implemented to address a variety of issues, for example, for universities, as part of a strategy to compensate for audience shortages, and as a way to encourage teacher collaboration. For teachers, blended courses can be a method that provides new opportunities for technology implementation and the transition to distance learning. For students, blended courses offer the convenience of online learning combined with social learning interaction [2, p. 21].

Blended learning refers to destructive technologies, ie those that completely deviate from traditional technologies [3, p.64]. Such learning becomes personalized and student-centered.

This type of training solves the following tasks [3, p. 12]:

• expands the educational opportunities of students through accessibility and flexibility, taking into account their individual educational needs, as well as the pace and rhythm of mastering educational material;

• stimulates the formation of the subjective position of the student: increase his motivation, independence, social activity, reflection and introspection and, as a consequence, increases the efficiency of the educational process as a whole;

• transforms the style of the teacher: provides a transition from the translation of knowledge to interactive interaction with the student, which contributes to the formation of the process of constructing their own knowledge;

• personalizes the educational process: the student independently determines their learning goals, ways to achieve them, taking into account their own educational needs, interests and abilities; the teacher in this situation is the student's assistant.

According to J. Berzin [2, p. 55], one of the principles on which blended learning is based is the conscious choice of social services at minimal cost. This principle can be followed by defining clear goals, ie on the basis of a careful analysis of all the intricacies of the educational design system. Mixing helps to optimize resources and time, the formation of positive motivation in students and readiness to complete the course.

The work of teachers becomes less time consuming, as the verification and analysis of materials on the network requires less effort. However, they must properly organize the student training system. Mixing environments (traditional – at university, and the Internet – at home) allows the teacher to use the strengths of each student to achieve the desired educational goals. The ultimate goal of blended learning is to increase the effectiveness of training through the systematic evaluation of interdependent variables and the integration of learning tools.

Innovative technologies such as lectures and practical classes in the Moodle system are used at the university where the students were interviewed. Each student has a personal account through which he enters and joins any lecture and practical session of his course. The final assessment or modular control is conducted in a form convenient for the student.

The following combinations of learning mix can be distinguished [3, p.5]:

mixing face-to-face and distance learning: this form of blended learning is the most common. Learning materials and tasks can be placed in LMS (Learning Management System), social networks such as Edmodo and create conditions for blended learning and the use of, for example, "inverted" model in the classroom;

mixing structured and unstructured learning: structured learning is well established in the university and corporate learning structure, where the student is provided with a set of pre-designed learning materials and a certain learning trajectory. Unstructured learning takes place through conversations, meetings or even e-mail correspondence in a format convenient for all. Instructors can play the role of moderators, providing the necessary direction of effective communication;

mixing user content and external materials: user courses are best for developing technical knowledge and skills in a particular industry, product or process. But creating custom courses for many different student learning needs within available study time and budget is often an impossible task. Ready-made courses solve this problem because they are more general and can be used wide audience;

mixing independent and collaborative learning: automated learning technologies have created opportunities for self-directed learning and training, where everything is under the student's control, but does not always inspire and motivate him. At the same time, joint learning allows for dynamic communication between students, which leads to the exchange of knowledge. Interaction with teachers and classmates increases motivation and allows you to thoroughly learn the material;

mixing work and study. It is believed that real success and effectiveness of learning is available in organizations associated with the paradigm of continuity of work and study. Work becomes a source of learning content, and learning content becomes available on demand and in the context of the need to perform work in the workplace. That is, the concept of physical class loses its meaning, work becomes learning, it is a constant process.

A variety of tools are used to organize blended learning, mostly cloud technologies. Today, video plays an important role in blended learning. Statistics on the use of video in the MEP (massive open online course) show that the duration of the training video should not exceed 10 minutes [7, p. 24]. Options for working with video are: video creation (Screenr, Screencast-o-mattic, Camtasia), video editing (YouTube), video creation by adding to the presentation of the sound (http://powtoon.com, http://slidetalk.net), creating a video with testing (http://zaption.com, http://educanon.com), creating a video with commenting (VideoNot.es, Zentrick.com), creating an animation (https://explee.com/# , www.sparkolpro.ru), creating a video tutorial (http://goclass.comhttp: //teachem.com).

Blended learning is constantly being improved and is aimed at supporting personality-oriented learning. The following trends in the development of this type of education are noted [5; 6]:

– development of mobility of learners;

– strengthening student orientation;

– increasing the number of students involved in this type of study;

– expanding opportunities for teacher-student interaction in a virtual environment;

– increasing the autonomy of students through independent work with a large number of databases offered on the Internet;

– personalization of training;

– productive gamification;

widespread access to mobile devices that implement blended learning.

Conclusions and further prospects in this direction.

Thus, a blended approach to learning is one of the most relevant educational technologies today, as it allows you to take advantage of the flexibility and convenience of distance learning and the benefits of traditional classroom. Among modern approaches to learning, it occupies a leading position, because it is a purposeful process of acquiring knowledge, skills in the integration of classroom and extracurricular educational activities of educational entities through the introduction and complementarity of traditional, electronic, distance and mobile learning technologies. if the student has self-control over the time, place, routes and pace of study. Nowadays, a significant number of universities organize blended learning as a mastering of a number of courses.

Blended learning has advantages and disadvantages, but is constantly evolving and aimed at supporting personality-oriented learning, which, of course, allows us to consider it as a popular technology for change and transformation.

References:

1. Бігунова С.А., Фрідріх А.В., Ніколайчук Г.І. Inquiry as a Key to Deeper Learning // Інноватика у вихованні: зб. наук. пр. Вип. 11. Том 2/ упоряд. О. Б. Петренко ; за ред. Н. М. Коляда, Н. Б. Грицай, Т. С. Ціпан та ін. Рівне : РДГУ, 2020. С. 195–202
2. Кіщенко Н.Д. Цимбал Ю.О. Англійський педагогічний дискурс: класифікація методичних термінів// Освітній простір України: зб.наук. пр. / Прикарпатський національний університет імені Василя Стефаника, державний вищий навчальний заклад. Ів.-Франківськ: Вип. 14, 2018. С. 178–183
3. Скрыпникова Н. Н. Технология смешанного обучения: актуальность и проблематика / Н.Н. Скрыпникова // Профессиональное образование и рынок труда. – 2018. – № 3. – С. 74–78.
4. Bonk C. J., Graham, C. R. Handbook of blended learning: Global Perspectives, local designs – San Francisco, CA: Pfeiffer Publishing, 2006.
5. Christensen Institute – 2017. www.christenseninstitute.org.
6. Friesen Norm Report: Defining Blended Learning – 2012.
7. Reay J. Blended learning – a fusion for the future // Knowledge Management Review, 2001.

Чжан Кай. Розвиток цифрової компетентності студентів вищих навчальних закладів у змішаному навчанні

У статті висвітлено питання формування навичок цифрової компетентності студентів-гуманітаріїв у контексті змішаного навчання. Розвиток цифрових компетенцій спрямований на підвищення звичних навичок користувачів до рівня професіоналів. У статті звертається увага на те, що нинішнє покоління студентів – це покоління, яке виросло в цифровому просторі, тому певні навички для цих студентів запрограмовані в їхній свідомості. Змішана вища освіта дозволяє студентам краще опановувати обрані напрями підготовки завдяки цифровізації освіти. Завдяки цифровізації навчання студенти отримують глибші знання з дисциплін, які проводяться в електронному форматі, ніж ті дисципліни, які проводяться в аудиторіях. Аналіз опитування показав, що більшість студентів більш сприйнятливі до інформації, яку їм надають цифрові технології. Дослідження пока-

зали, що студентам гуманітарних спеціальностей потрібно більше часу для вивчення нових цифрових програм і ресурсів, ніж студентам технічних спеціальностей. Головною умовою розвитку інформаційно-цифрової компетентності учнівської та студентської молоді є відповідна підготовка вчителів і викладачів. У Національній доповіді про стан і перспективи розвитку освіти зазначено: «Визначальним для ефективного впровадження ІКТ в освіту та розвитку інформаційно-освітнього простору є формування інформаційно-комунікаційних компетентностей педагогічних, науково-педагогічних працівників та керівного складу. освіти шляхом ознайомлення з сучасними досягненнями у сфері ІКТ, підвищення кваліфікації педагогічних працівників, працівників методичних служб, навчальних закладів, наукових установ та органів управління освітою. Тому сучасна система освіти і науки має зазнати радикальних цифрових змін і відповідати світовим тенденціям цифрового розвитку, щоб кожна людина могла успішно реалізувати свій потенціал. Найбільший внесок у дослідження цифрової компетентності громадян загалом та цифрової грамотності освітян зробила Європейська наукова спільнота. У результаті були представлені такі документи, як Рамка цифрових компетенцій: громадяни; споживачі; вчителі; освітні організації. Автор висвітлює як виклики, так і занепокоєння, викликані стрімким розвитком інформаційних технологій та потенціалом їх інтеграції в освітній процес. Автор також покриває ризики, пов'язані з використанням пошукових систем, переглядом веб-сайтів, сегментацією інформації та її збором.

Ключові слова: *цифрова компетентність, змішане навчання, вищі навчальні заклади, інформатизація.*