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USING COMPUTER TECHNOLOGY FOR FORMING SELF-EDUCATIONAL COMPETENCE OF FUTURE TEACHERS TECHNOLOGY IN HISTORICAL ASPECT

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Using Computer Technology for Forming Self-Educational Competence of Future Teachers Technology in Historical Aspect

This article deals with the components forming levels of self- educational competence against the background of the development and providing computer technologies in the educational process. The article considers the period of formation and development of informational and communicative technologies in higher educational institutions of Ukraine. There are three periods of computer technology in teaching and self-educational activity are pointed out and analyzed self-educational activity at each of them in the training process of future technology teachers. The paper presents the possibilities of using computer technology of future Handicraft teachers in each of the represented periods. Its drawn formation parallels and the development of informational and self-educational competence of future technology teachers. The use computer technology has been analyses for formation of self-educational competence of future technology teachers in historical aspect.

Key words: computer technologies, self-educational competence, future technology teachers

The need for the formation of the future teachers of technology skills of self-education, self-organization and self – not a new phenomenon and multifaceted, requiring the presence of a number of circumstances. Informatization of society and, consequently, informatization of education poses new challenges for training specialists who would be a perfect master of modern information technology. But this is not enough because the technology quickly and constantly evolving and changing, hence

there is a problem not only in training future professional modern information technologies, as well as learning through the use of technology for continuous improvement, not only in the sphere of knowledge and skills to use information technology, but also in the direction of professional activity. Therefore, it is necessary to form a future expert ability to self-education, the result of which will be acquired new knowledge and skills in general cultural, professional, social sphere, that is – to form a self-educational competence of a specialist.

Future teacher's technologies, like anyone else, must have subject knowledge not only in information technology but also in food, sewing, designer, industrial and manufacturing technologies. In each of these areas has accumulated a large amount of knowledge through information and communication technologies is already available in full each subject learning activities for self-study at any stage of training. Therefore, the formation of self-educational competence of future teachers of technology is a priority task of training. To implement the task must multi-task to review all existing aspects, analyze the possibility of forming self-educational competence to monitor the current state of formation of self-educational competence of teacher's technologies that will lead to the creation of a concept of its formation. At the beginning of a Concept of self-educational competence using ICT should be to analyze existing experience, using it in a historical perspective.

The problem of formation of professional competence of future teachers repeatedly highlighted in the work of teachers and psychologists, namely D. Alferova, S. Cooper, N. Glynyanyuk, M. Ermolenko, V, Myzherykova, E. Pavlyutenkova, N Razin, S. Tishchenko, E. Shishova and others. Modern problems of university education discussed in the writings of A. Gluzman, V. Lugovoj, S. Smirnov, P. Scott and others. Teaching the basics of the problem gained grounds in the writings of S. Arkhangelsk, V. Andreyev, A. Gromtsev, T. Gusev, M. Piskunov, B. Rajski and others. Pedagogical approaches for computerization and informatization of educational process considered in B. Hershunski, M. Zhaldak, Yu Mashbyts, J. Robert, N. Talyzina

and others. The problem of implementing ICT in education have dedicated their works V. Bykov, Ja. Bulakhov, O. Bondarenko, Yu. Val'kman, G. Gurevich, A. Gurzhiy, V. Zabolotny, G. Kozlakova O. Mishchenko, L. Panchenko, O. Pinchuk, O. Shestopal and others. But despite the great interest of scientists such as A. Dubasenyuk, I. Zyazyun, S. Ivanov, N. Kuzmin, N. Kukhareva, V. Lozova, L. Panchenko, S. Sysoiev, A. Shcherbakov and others to issues of information education and educational space, the problem of readiness of teachers and future teachers to work with information and communication technologies today is poorly understood, although it has been devoted a considerable amount of work and research.

The purpose of this article is to review and analyze periods of use of computer technology to create self-educational competence of future teachers of technology in historical perspective.

Experiments related to the introduction of computer technology in the educational process, started in the early 60s of XX century. However, classes with students in non-mathematical specialties of electronic computers (computers) were not carried out due to lack of so-called free "time machine." This kind of mass employment came only after the prevalence of computerization in schools and as a result, led to the introduction of computer technology in the educational process.

In our view, there were three main periods of use of computer technologies in educational process of training teachers of labor studies at higher education institutions. The first period include the initial phase of accumulation of computer equipment, robotic systems and educational computer micro laboratory. In 1986, the decision of the Ministry of Education of the USSR was approved by the Republican target integrated research program "Computer in school and educational institution" that was carried out during 1986-1991 years, scientific program manager was appointed rector of the State Pedagogical Institute named after O. Gorky (now NPUM. Dragomanov) schools. The program included the development of topical issues of introduction of computer technology in the educational process of schools and teacher training institutions. One of

the goals of the program was "Improving the teaching of computer universal education" running A. Lomakovych. The work in 1988 was the first ordering guide for teachers, and accordingly to prepare students of pedagogical specialties under the leadership of schools [1] for the first time in the USSR were offered so-called custom bias in teaching science, when the first plan submitted learning the basics of modern information technology, as opposed to learning the fundamentals of programming sidelined, and even then not taken into account. This approach has allowed beginning the formation of information competence of future teachers [5, p. 9].

Also during this period appear in the curriculum subjects such as "Computer Engineering and technical means in the educational process" with a total of 30 hours. [2] "The use of computers in education" (50 hours), "Automation of production processes" (48 hours), "Information and Computers" (80 hours) [3]. The list of technological education specializations added "teacher of computer science and computer engineering" and by this appear in the curriculum subjects such as "Computers and Computing" (230 hours), "School Course of teaching methods" (108 hours) "Practical training in workshops and programming computers" (396 hours), "Computing practice" (123 hours) [4]. For technical support of these disciplines in educational institutions received "training systems computing", originally based mainly on personal computers domestic production (DVK, UKNTS, Poshuk etc.) and later on personal computers foreign production (IBM, Yamaha, Pravets etc.). The software used during the training activities rather "poor". The kit supplies, in addition to system software and programming several systems present editor and database management system. On educational software are not talking at all, and so for methodological support disciplines teachers and students begin to develop its own educational software. For example, subject Olympiad in Informatics among students of pedagogical universities of Ukraine, held late 80's - early 90-ies at the Kharkiv State Pedagogical Institute named H. S. Skovoroda (now H. S. Skovoroda Kharkiv National Pedagogical University) consisted of two phases and the second phase held a competition of their own educational software.

Lack of educational software provides the possibility of independent work with PC using only computer students, physical, mathematical and engineering graduates, while it was in the nature of calculation of certain values of functions, settings and so on. Formation of self-educational competence at this stage of computer usage was a very specialized direction and with a limited number of students.

The second period is characterized by the multimedia capabilities of computer technology. There are professional educational software, in particular, has become very popular course videolecture, electronic books, testing systems, encyclopedic reference books and more. They distributed via media and therefore is accessible at any time and in any place. Quite named active agents began using a part-time basis, creating educational software packages with information material and system testing. Based on the development of new information technology training, based on the widespread use of computer technology, has not just changed methodological training system, and fundamentally rearranged the whole learning process. This leads to radical changes in teaching systems training for all disciplines, particularly actualizes the problem of balance of different learning tools, textbooks and educational software, computer and traditional means of training, consideration between school subjects relations, new organizational forms, a significant attraction to teaching and learning direction of research and therefore self-education, and problem use heuristic methods of teaching, creative activity of teaching.

At this period to work independently using computer technology have been involved students of all disciplines in the study of various disciplines. Students of technical specialties perform independent work not only on computer graphics and computational engineering works on the theory of machines and mechanisms, but also on disciplines such as drawing, design, and now also the students themselves, using a PC to prepare and coursework, essays and more. Also at this time makes sense notion of information culture of students formed axiological component of information culture of students is to be aware of the importance of computer equipment and technology to the

educational process, in the sense of the overall strategy of the educational process in the new information society. A clearly defined cognitive component of information culture, the students formed knowledge and skills on issues of informatization of education. To add new curricula subject "Modern Information Technologies" and "Modern information technologies in education."

The third period characterized by high-speed access to global computer networks. In the educational process, new forms of learning based on information and communication technologies - distance education, massive open online course. In the educational process there are cloud technologies radically change the shape of independent work using computer technology, allowing you to perform independent work in any place and at any time, provided access to the global computer network Internet. During this period, an increasing number of tasks and independent work hours generally reserved for independent work in accordance with the requirements of the Bologna process, which involves higher educational institutions of Ukraine. Even the design of research results in the form of reports on presentations, essays, term papers, dissertations and calculated using computer technology not only allows inculcate in students the skills to use certain software, but also the ability to search for information, its transformation and consumption. The structure of information culture there is research and creative component, characterized by readiness to use ICT in educational research, the creation of new techniques and technology education, skills, create projects using ICT in a wide range of disciplines. Becomes important structural component, which is the ability to use ICT in the educational process. Motivational component, as the final part of the readiness of teachers to use ICT in teaching and, most importantly, self-employment, is the interest in modern means of information sharing and finding new ways to improve the educational process based on ICT, the need for constant updating of knowledge on applications ICT in educational activities, professional improvement and knowledge in the information society. Only in the third period, we can

speak about the formation of self-educational competence of teachers using ICT technologies.

The main difficulty forming abilities of self and self-improvement is to use students in the learning process has finished a suitable material for learning and leaves their ability to self-search. However, these difficulties may resolve by entering a learning process and learning of students elements of independent search of various materials using information and communication technologies, which significantly contribute to "erase" the boundaries between learning and independent research.

Formation of self-education students need for a leading educational process by the university education that drives the desire of teachers to self, self and continuous improvement. Currently, a great tool in this process is information and communication technologies, increasing the possibility of self-education and self several times.

Analysis of the current state of ICT use for the formation of self-educational competence of future teachers of technology leads to the conclusion that at the present stage of development of ICT use in self-education enables future teachers to teach better and more diverse material and experience of teachers, causing great interest and curiosity of the subject learner and promotes self-educational competence in full. All components of self-educational competence of future teachers of technology, namely general cultural, educational, professional activities is not only possible but also necessary to develop using ICT.

Until further research should include the issue of formation of self-education competence of future teachers of technology and the issue of continuous formation of self-educational competence of professionals.

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Федоренко О. Г., Зима Г. С.

Використання комп'ютерних технологій для формування самоосвітньої компетентності майбутніх учителів технологій у історичному аспекті

У статті розглядаються етапи формування компонентів самоосвітньої компетентності на фоні розвитку та впровадження комп'ютерних технологій в навчальний процес. Розглядаються періоди становлення та розвитку інформаційно-комунікаційних технологій у вищих навчальних закладах України.

Виділено три періоди використання комп’ютерних технологій у навчанні та проаналізовано самоосвітню діяльність на кожному з них у процесі навчання майбутніх учителів технологій. Наведено можливості використання комп’ютерних технологій майбутніми вчителями трудового навчання в кожному з поданих періодів. Проведено паралелі становлення та розвитку інформаційної та самоосвітньої компетентності майбутніх учителів технологій. Зроблено аналіз використання комп’ютерних технологій для формування самоосвітньої компетентності майбутніх учителів технологій в історичному аспекті.

Ключові слова: комп’ютерні технології, самоосвітня компетентність, майбутні вчителя технологій.

Федоренко Е. Г., Зима А. С.

Использование компьютерных технологий для формирования самообразовательной компетентности будущих учителей технологий в историческом аспекте

В статье рассматриваются этапы формирования компонентов самообразовательной компетентности на фоне развития и внедрения компьютерных технологий в учебный процесс. Рассматриваются периоды становления и развития информационно - коммуникационных технологий в высших учебных заведениях Украины. Выделены три периода использования компьютерных технологий в обучении и проанализирована самообразовательная деятельность на каждом из них в процессе обучения будущих учителей технологий. Приведены возможности использования компьютерных технологий будущими учителями трудового обучения в каждом из представленных периодов. Проведены параллели становления и развития информационной и самообразовательной компетентности будущих учителей технологий. Сделан анализ использования компьютерных технологий для формирования самообразовательной компетентности будущих учителей технологий в историческом аспекте.

Ключевые слова: компьютерные технологии, самообразовательная компетентность, будущие учителя технологий.

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