Effectiveness of Organizing Students' Self – Education with the Facilities of Media Resources in Educational Media Environment

Zakhro Umarova[1]

[1]Doctoral Student, Tashkent State Pedagogical University Named After Nizami, Tashkent, Uzbekistan.

Abstract

New information communication technologies and digital media are changing our world and the way we learn. Therefore, the introduction of ICT in the professional activities of teachers in our time is inevitable. Information technologies open up new opportunities for improving the educational process, activate the cognitive activity of students and allow organizing the independent and joint work of students and teachers at a higher - creative level. With countless educational resources, ICT can help improve teaching and learning process. Teachers can use various of educational digital resources, among them, media resources contribute to increasing student engagement thus improving traditional teaching methods.

The increasing use of ICT and digital technologies is stimulates a growing demand for new professional competencies. New requirements are being put forward for the professional competence of teachers in the context of the digitalization of the education system. In this context, it is about ICT, digital and media competencies of future teachers. This article reveals the methods for the development of these competencies through the organization of self-education of students in educational media environment. In educational media environment, which is offered by us, media resources introduced as open educational digital resources for self-learning modular short courses under the subject "Information Technologies in Education".

The study showed that, media resources serve to enrich the educational process with visual materials and to increase the efficiency of student self-learning.

Key-words: Information Technologies, Information Communication Technologies, Digital Technologies, Media Resources, Educational Media Environment, Information Technologies in Education, Self-Education, ICT Competence, Digital Competence, Media Competence, Course.

1. Introduction

Today, the rapid pace of development of ICT and digital technologies has changed the life of modern time. All spheres of human activity cannot do without the use of information and communication technology. In this regard, the role of information technologies in education is

significantly increasing. Therefore, for future teachers, mastering the basics of ICT, and not only effectively using information technologies, but also adapting to their constantly changing conditions is not an idle occupation, but a necessity.

Educators around the world are becoming increasingly aware of the benefits of the skillful use of modern information and communication technologies in general education.

As E. Omarova[1] notes, Information technologies enable the teacher to apply both certain types of educational work and any set of them to achieve didactic goals, i.e. design a learning environment, allow you to implement fundamentally new forms and methods of teaching. The teacher receives additional opportunities to support and guide the development of the student's personality, creative search and organization of their joint work, development and selection of the best options for educational programs.

The development of new information technologies in education stimulates the development of software tools and applications that implement methodological ideas for facilitation of memorization and understanding of the studied material, rapid and free access to educational information, verification of the correctness of the results which is obtained, during the assessment etc. Due to the created modern teaching aids, based on ICT, teachers can reach interactivity (the opportunity to interact with the student) of teaching process and engagement (the chance to involve student in learning) of student in learning process allow more implementation of the developmental paradigm in education.

The use of ICT makes it possible to implement the ideas of individualization and differentiation of education.

Modern information technologies provide students with access to non-traditional sources of information, increase the efficiency of independent work, and provide completely new opportunities for creativity, acquisition and consolidation of various professional skills. [1] With one word we can say that, due to the use of modern information and communication technologies, the activities of the teacher are greatly facilitated.

According to the mentioned above, it is worth noting, every teacher must have subject-oriented ICT-competence, that is, master specialized technologies and resources developed in accordance with the requirements for the content of a particular subject, and also form a readiness for their implementation in educational activities. Therefore, the importance in the training of highly qualified specialists - pedagogues capable of using information and communication technologies (ICT) in their professional activities is no longer in doubt.

Let's dwell first on the definition of ICT competence. There are several definitions for ICT competence.

L.N. Gorbunova, A.M. Semibratov[2] consider the information and communication competence of a teacher as a set of knowledge, skills and abilities formed in the process of teaching information technologies, as well as the teacher's readiness and ability to independently and responsibly use these technologies in their professional activities. In the works of E.K. Henner[3], information competence is understood as a set of knowledge, skills and abilities formed in the process of learning and self-study of computer science and information technology (IT), as well as the ability to perform pedagogical activities using IT.

Today, together with ICT competence, there is more and more talk about the digital competence of teachers. So, what is the digital competence of teachers?

Digital competence of a teacher is a set of knowledge and skills that are necessary for the safe and effective use of digital technologies and Internet resources in pedagogical activities.

Goryunova et al [4] interprets the term digital competence of a teacher as the readiness and ability to use digital resources, use computers, mobile devices and cloud technologies in the educational process, as well as create and effectively use the capabilities of the digital educational environment and all its components in the educational process. A teacher, in order to be adequate in the digital world, digital technologies, must have knowledge about the capabilities of computers (including mobile devices) and technologies, understand the role of the digital educational environment, be able to analyze information, design and create his own environment, work in networked pedagogical communities, taking into account the possibilities of information, limitations, risks of its use, etc.

In addition, there is another important competence in the activities of future teachers, which today is more and more included in the trend in pedagogy - this is media competence.

Media competence is the ability to adequately interact with streams of media information (different types of information) in the global information space: to search, analyze, critically evaluate and create media texts disseminated through various media and communication. K. Tyner [5] interprets the term media competence as "the ability to find, evaluate and effectively use information in personal and professional activities.

Three components of media competence identified by J. Potter [6] are important: "The first component is experience. The more experience we have in dealing with media and with the real world, the greater our potential for developing a higher level ... The second component is the active

application of skills in the field of media. The third component is maturation / readiness for self-education".

2. Methods

To develop those XXI century's key (ICT, digital and media) competencies we propose organize students' self - education process in educational media environment, which is special created by us.

The main goal of creating this educational media environment and using media resources is to increase students 'desire to learn independently and their interest in learning new things with pleasure. Using media resources in educational process means combining and implementing words, pictures, graphics, charts, illustrations, infographics, audio, video and others to maximize teaching and learning effectiveness. [7]

One of the characteristic features of the educational media environment, which is today very important in modern pedagogy, the ability of students and teachers to refer to structured teaching materials, teaching and learning with media resources at anytime and anywhere. In addition to the availability of different educational material (media educational resources), it is necessary to provide the students with the opportunity to learn on own pace, receive knowledge and skills on-line or off-line, as well as the ability to receive individual "navigation" in the development of a particular subject. Students will strive for a flexible learning regime through special prepared modular courses, which will allow them to learn independently taking into account previous experience, knowledge and skills.

It is worth to note that, organizing students' self-education in educational media environment and using media resources (text, pictures, infographics, audio, video, animation, caption video, presentations etc.) as an educational content is one of the best way to involve, motivate and to catch students interest into self - learning process. It is no doubt that, today, especially for young modern people media resources are priceless. Because, they are "digital natives" and they are surrounded with media. So, in this case media resources, as Nicholas Sparks said: "Inspire you, they entertain you, and you end up learning a ton even when you don't know it". There is no doubt, a person better perceives exactly the information that is interesting to him, is most consistent with his personal preferences and attitudes, attractive for him. Therefore, the use of media resources in the learning process can be called the methodological concept of "learning with involvement"[8].

3. Results and Discussion

ICT is introduced in teacher education at various levels as a compulsory subject or a special field subject. Basically, it is introduced as a subject "Information technologies in education" in the curriculum of all pedagogical directions of the bachelor's degree.

In order to better understand the framework underlying in this study, we should briefly discuss about methodic, that we propose, organization students' self-education on subject "Information technologies in education" by the mean of media resources in special created educational media environment, with the example of two different specialties.

The subject "Information technologies in education" is studied by students of the specialty 5110300 "Methods of Teaching Chemistry" and 5110100 "Methods of Teaching Math" for their use in the future professional pedagogical activities. Today students (future teachers) should not only learn some general aspects of ICT, but also, among other things, would be perfect if gain some knowledge and necessary professional skills about how to use the possibilities of online resources, create e-books, shoot a caption video, make a presentation with "super effects", with animations and of course conduct and promote educational channels on telegram or YouTube to organize modern lessons in the future pedagogical activity.

During our research, students mastered ICT both in the classroom on the discipline "Information technologies in education", and on educational media environment, with the help of modular short courses on important topics during the self-education hours of this subject. It is one thing when you heard or saw something at a lecture, another thing when you yourself have acquired a specific experience, especially an applied one.

The research has shown that, self-learning with media resources in educational media environment allows that students acquire knowledge in an inductive way: in practice, independently, on their own mistakes, using peer or teachers' advice. Media resource based learning like an experiential learning, students learn through reflection on doing [9].

Next, let's talk a little about this software product, which is specially created for organizing self-education of students in an educational media environment.

At the initial stage of the research, a special educational media environment was developed for organizing self-education of students on the subject "Information Technologies in Education". (1-image).

Image 1 - Educational Media Environment

This software product provides electronic courses on IT disciplines. To use, students first need to register (2 images) and enroll in the course they are interested in, and then they can plunge into the world of self-study. All courses are free.

Picture – 2 Registration Form

Picture 3 - Free Courses

In this educational media environment educational materials are provided in different formats, that is, in the form of media resources (images, animation, infographics, video, audio, text format, etc.).

The use of media resources opens up didactic opportunities related to the visualization of learning material, the ability to visualize those phenomena that cannot be effective demonstrated in other ways, allow you to combine practical and theoretical teaching procedures[7]. The use of media resources in the creation of training modular systems can significantly increase their visibility and, consequently, their effectiveness [8].

The introduction of a media environment in higher education institutions creates good conditions for the development of quality of pedagogical education and information provision [10, 11].

4. Conclusion

All in all, the use of media resources and to learn basis of ICT in educational media environment makes it possible to solve the most important tasks of education - to improve the quality of educational results, to form the ability and motivate to self- learn, to include each student in cognitive and search activities, so that everyone feels their involvement in the educational process, everyone coped with the task, which contributes to the formation of key competencies of students, the

development of a personality capable of conducting an independent search, making their own discoveries.

Based on the above, we already know that students (future teachers) of all areas of pedagogy must learn to combine various digital tools and resources to create an integrated digital learning environment, besides that, how to evaluate the accuracy and usefulness of ICT resources and tools, use authoring tools to create curriculum materials, search and analyze digital and ICT tools, develop their own digital tools and educational resources that will help them in their further pedagogical activities. In this context, it is very important that teachers have the necessary competencies to actively use ICT in their professional practice, ensuring equal opportunities and high quality teaching.

The work of the teacher today is becoming more difficult, but at the same time more important, since it is education that is at the center of the new information and communication society. And due to the digitalization and mediatization process, preparing high qualified future teachers with XXI century's competencies, who are ready to work in sphere of digital education, became achievable task.

References

Omarova, E. (2016). The role of information technology in modern education. *International scientific and practical Internet conference "Actual problems of teaching methods of informatics in a modern school", Russia, Moscow, Moscow State Pedagogical University.*

Gorbunova, L., & Semibratov, A. (2004). Professional development of teachers in the field of information and communication technologies as a developing system. *Pedagogical informatics*, 3.

Henner, E. (2009). Structuring and formalization of requirements for computer literacy and ICT competence of subjects of the system of continuing education. *Informatization of education and science*, 2.

Goryunova, M., Lebedeva, M., Toporovsky, V. (2019). Digital literacy and digital competence of a teacher in the system of secondary vocational education, *4*(61).

https://cyberleninka.ru/article/n/tsifrovaya-gramotnost-i-tsifrovaya-kompetentnost-pedagoga-v-sisteme-srednego-professionalnogo-obrazovaniya

Tyner, K. (1998). *Literacy in a Digital World.* Mahwah; New Jersey; London: Lawrence Erlbaum Associates Publishers.

Potter, J. (2001). *Media Literacy. Thousand Oaks.* London: Sage Publication.

Umarova, Z. (2020). Pedagogical Opportunities of Media Resources in a Digital Media Educational Environment. *Journal La Edusci*, *1*(5), 1-5.

Zakhro, U. (2020). Media Resources: As An Effective Tool In Modern Education. *The American Journal of Social Science and Education Innovations*, *2*(07), 239-245.

Zakhro, U. (2020). Media Resources As An Effective Tool of Students'self-Education. *European Journal of Research and Reflection in Educational Sciences*, *8*(8), 61-65.

Abualrub, I., Karseth, B., & Stensaker, B. (2013). The various understandings of learning environment in higher education and its quality implications. *Quality in Higher Education*, *19*(1), 90-110.

Salmon, G. (2005). Flying not flapping: a strategic framework for e-learning and pedagogical innovation in higher education institutions. *ALT-J*, *13*(3), 201-218.

UNESCO ICT Competency Framework for Teachers. UNESCO, 2019.

Information and communication technologies in education: monograph / Edited by: Badarch Dendeva - M.: UNESCO IITE, 2013.

Media and Information Literacy Curriculum for Teachers. UNESCO, 2011.