MOBILE LEARNING TECHNOLOGY FOR ORGANIZING INDEPENDENT WORK IN THE EDUCATIONAL PROCESS OF HIGHER EDUCATION

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ABSTRACT:

The article deals with the application of mobile learning technology in the process of organizing independent work of students of higher educational institutions. The types of tasks, the advantages of this type of work, as well as the results of experimental training are described.

KEYWORDS: learning technology, mobile technologies, mobile learning, independent work of students, information technology.

INTRODUCTION:

The system of higher education in the XXI century is characterized by a rapid pace of development and intensive introduction of information and communication technologies. In the context of what is happening, the modern teacher of higher education is constantly searching for innovative teaching tools in order to replenish his own arsenal of modern pedagogical technologies that will allow for higher professional training of students. However, each subsequent wave of the technological revolution passes faster than the previous one, which makes it much more difficult to select technologies.

The introduction of new educational standards that emphasize the formation of a harmonious, versatile personality, ready to learn through life, brings the issues of organizing independent work of students to the fore. Independent work of the student is one of the most important components of the educational process, during which the formation of skills, abilities and knowledge

takes place. In addition, individual work has a great didactic potential, since it is not only learning, but also its extension, the formation of skills to work with different kinds of information, the development of analytical skills, skills tracking and planning your study time. Undoubtedly, traditional forms of independent work should be used to the full extent, but we cannot ignore the changing socio-cultural conditions, technological progress and the students themselves as representatives of a new generation of digital natives [16]. Today, the spread of computer technologies and the Internet provides a wide field for their application in educational activities. One of the relatively new directions is the technology of mobile learning, which is the subject of this article.

Currently, the rapid development of mobile technologies necessarily entails their further more active penetration into education. Modern and timely use of mobile technologies in education activates the cognitive interest of students, allows students and teachers to vary the learning process by intensity, method of obtaining information and other aspects of the learning process, reduces the restrictions for obtaining education, regardless of location, using mobile devices and technologies.

It is undeniable that the student is currently equipped with all sorts of mobile devices, thanks to which he is able to be in touch with the whole world, regardless of time and location, which means that young people have the opportunity to access information in any convenient place and time.

According to statistics of mobile market, the number of mobile phones and tablet PCs more than the number of the adult population, and the growth of mobile Internet growth [11]. This fact suggests that every student is equipped with a mobile device, whether it is a smartphone, tablet, electronic leader or other smart device, and Internet access will soon be ubiquitous and accessible to every user. The results of numerous studies show that the mobile market, which oversees services, equipment, and infrastructure and creates mobile applications, will be a full-fledged participant in all spheres of life of the next generation, including education.

In the Decree of the President of the Republic of Uzbekistan dated October 8, 2019, PP-5847 "On approval of the Concept for the development of the higher education system of the Republic of Uzbekistan until 2030", the main task is to increase the share of hours allocated for self-education, the introduction of methods and technologies aimed at developing students ' skills of independent education, critical and creative thinking, system analysis, entrepreneurial skills, the introduction of methods and technologies aimed at strengthening competencies in the educational process, the orientation of the educational process to the formation of practical skills, the widespread introduction of advanced pedagogical technologies, curricula and teaching materials based on international educational standards in this area into the educational process [1].

THE MAIN FINDINGS AND RESULTS:

The study of the concept of "mobile learning", which appeared for the first time in foreign pedagogical literature, showed that today there are many interpretations of this concept, but the general thing is that with such training, a connection to the cable network is not necessary.

J. Traxler argues that mobile learning completely changes the learning process, since mobile devices modify not only the forms of presentation of material and access to it, but also contribute to the creation of new forms of knowledge and mentality. Training becomes timely, sufficient, and personalized («just-in-time, just enough, and just-for-me»).

According to V. Kuklev, mobile learning provides for the availability of mobile tools, regardless of time and place, using special software on a pedagogical basis, interdisciplinary and modular approaches [8].

Pogulyaev D. V. mobile learning is defined as a form of organization of the educational process based on the use of mobile computer devices and wireless communication [12].

E. V. Vulfovich claims that mobile learning is the use of mobile phones, smartphones, communicators, and handheld portable computers in teaching and learning, regardless of the place and time [5].

A large number of foreign researchers are also engaged in the development of the concept of mobile learning and the most effective way to implement it.

Duchnice Yu. the analysis of the concept under consideration, the definitions of which are given on Internet portals respected in the scientific community, is carried out [7].

Below are some of these definitions.

Mobile learning is any learning activity that primarily or exclusively uses portable devices –phones, smartphones, tablets, etc., but not regular desktop computers [8].

Mobile learning is any activity that allows people to be more productive in processes such as the consumption and creation of information, as well as any interaction with it, using a compact digital device that a person uses regularly. Such a device should provide reliable communication and fit in your pocket [2, 9, 13, 14].

As we can see from the presented definitions, the attention of researchers of the problem of mobile learning is focused on the ways and methods of collecting and storing information, the possibility of easy access to it using mobile means, as well as its dissemination. This approach seems to be limited, and its implementation does not take into account the personal contribution to the training of participants in the educational process.

Bondarenko N. G. suggests considering mobile learning from two points of view. "In terms of the technological features of mobile devices, mobile learning is the application of portable technologies, together with wireless and mobile phone networks, to facilitate, support, improve and expand the reach of teaching and learning. At the same time, mobile learning can take place anywhere, at any time, including in traditional learning environments...". "From the point of view of the didactic features of mobile electronic devices, mobile learning is a process (personal and public) of acquiring knowledge through the interaction of people in various contexts and situations based on the use of mobile electronic devices, providing an interactive nature of interaction in order to facilitate, support, improve and expand the scope of teaching and learning [3].

The definition of mobile learning is constantly changing. Mobile learning can be called a form of learning where there are no requirements for the student to be in a given place. The advantages of various mobile technologies come to the fore here, as the teaching methodology focuses on the student's mobility and interaction with portable devices such as smartphones, tablets, PDAs, MP3 players, laptops and other smart devices. However, this range is constantly expanding: it includes game consoles, digital voice recorders, e-books and dictionaries, as well as assistive technologies for students with disabilities. The devices are becoming more multifunctional, they support speaking, playing audio and video materials, reading, writing, searching for information, performing calculations, playing games, and much more. The choice of device depends on the age, location, tasks, and other factors. Young people and teenagers usually use mobile phones and personal media players. Advanced mobile devices are very popular among people, primarily because they are wireless and portable. These functional features allow users to communicate on the go. Also, the popularity of these devices is a consequence of their ability to function at multiple levels, i.e. to perform the functions of multiple devices. In addition, the intense commercial competition in the field of mobile devices forces manufacturers to be very innovative and constantly strive to introduce new features that can give them a competitive advantage. Against this background, educators, designers and developers with a rich imagination should think about the use of these devices in modern teaching and learning. In such an environment, content and services can be transferred to the student via personal wireless mobile devices. This will add another layer to the personal computer-based teaching and learning model. This also means that e-learning will take place in an environment that will be radically different from those with which teachers and students are familiar. Mobile learning as an educational activity makes sense only when the technology used is fully mobile and when the users of the technology are mobile at the time of learning. These clarifications emphasize the mobility of learning and the significance of the term "mobile learning».

Traxler and other proponents of this model define mobile learning as wireless and digital devices and technologies produced for an unlimited number of people and used by students, since they are participants in the

education system. Others define and present mobile learning with a focus on student mobility and learning mobility, as well as the student experience of learning through mobile devices. [15]

The main goals of mobile learning can be considered: communication at a convenient time and in any place, which expands the possibilities of teamwork; optimization of the use of mobile tools available to students; compact storage of material that is always at hand; intensification of the learning process; compliance of the development of the level of education with the modern social order and the interests of students who use mobile devices everywhere.

The conducted theoretical analysis makes it possible to conclude that mobile learning is an activity carried out by means of portable mobile devices, which allows us to simulate a non-linear situation of an open dialogue of direct and feedback, in which the student has the opportunity to participate in educational activities without restrictions in time and space.

An analytical review of domestic and foreign literature has shown that the increased attention to the problem of mobile learning is primarily due to the huge potential of mobile devices in the arsenal of pedagogical tools that entail fundamental changes in education.

Without going into details, we note that most of the policies for the use of information technologies in education were formulated even before the development of mobile devices, they did not fully take into account the capabilities of the latter. In her research, A.V. Loginova pays special attention to the didactic possibilities of using mobile learning technologies. The author focuses on the advantages of mobile learning in the higher education system, since the methodology of teaching students focuses on the mobility of the student and his interaction with portable devices [10].

At the same time, some nuances or disadvantages of this technology can be noted: it is difficult to control the process of independent work, it is impossible to track or estimate the time spent by the student; teachers are not familiar with this technology and often do not understand its benefits and potential; in most cases, it is not possible to assess the progress of learning and track the dynamics;

Despite these shortcomings, we conducted a study on the use of mobile learning technology as part of the independent work of students of the second and third year of the course in the areas of computer science teaching methods in the course "Web design"

The use of mobile devices in the framework of independent work of students provides ample opportunities to work with various types of information. Since the smartphone in most cases includes a geolocation module, a photo and video camera, a microphone and audio speakers, and also has built-in tools for working with various types of information, students have wide opportunities to use the mobile device as a tool when performing independent work (both classroom and extracurricular).

Two groups of students took part in the training. The first group was asked to use mobile applications instead of one of the elements of independent work, the second group was given an additional task to use applications, along with all other traditional forms of work. Students were introduced to a number of applications (the teacher prepared a presentation) and their task was to select applications to work with for a month, and then report on their achievements (prepare a presentation, present new material studied – the form of the report is at the discretion of the student).

It should be noted that the initial level of motivation in the first group (where reading was canceled) was much higher, which is

associated more with the reluctance of students to read than with the desire of students to use innovative technologies; but in the second group, students responded with interest to the task.

At the intermediate stage (after 2 weeks), students had to report which applications they had chosen, which ones they had already tried, and their impressions. More than 90% of the students completed the work, the rest either did not complete it fully, or did not start at all. The results of the experimental work showed similar patterns in both groups: the majority of students completed the work and evaluated it positively, both their results and the form of work in general. Some students (about 15%) admitted that they did not perform the work systematically, and about 5% of students did not complete the task. In both groups, students were asked to continue working with the applications during the academic semester, but in the first group, along with this, the individual reading task was returned. Since all applications are different and it is quite difficult to control what you have learned, two months later an anonymous survey was conducted on the use of mobile learning in the course "Web Design". In both groups, the students ' opinion was approximately the same (the combined results of both groups are presented, since they differ only by a few percent individually): Students like to use apps: 25% of students use them daily, 55% use them several times a week, 12% use them in their free time when there is nothing to do, and 8% of students rarely use apps. When asked whether students will use mobile applications after completing the course "Web Design", more than 70% of students answered positively. Thus, it can be stated that within the framework of independent work of students, mobile learning technology has shown great potential and has found a positive response among students.

In accordance with the curricula of various areas of training, it is assigned from 50% to 60% of the labor intensity of the discipline.

The organization of independent work of students is the most important link in the quality management system of education in an educational institution. In this regard, the planning, organization and implementation of the student's independent work is the most important task of the student's education [4].

Independent work of students is a planned work performed according to the assignment and with the methodological guidance of the teacher, but without his direct participation. It contributes to the deepening and expansion of knowledge, the formation of interest in cognitive activity, mastering the techniques of the process of cognition, the development of cognitive abilities [6].

The expediency of using mobile learning technologies as an additional resource in the organization of independent work of students is dictated by the following factors:
1. Improving the efficiency of learning through group and independent activities of students.
2. Intensification of the educational process: automation of the process of knowledge control, presentation of educational information; improving the visibility of the studied material; increasing the amount of offered educational information; reducing the allocation of time for a lecture course in the classroom.

The main thing in the strategic line of organizing independent work of students at the university is not to optimize its individual types, but to create conditions for high activity, independence and responsibility of students in the classroom and outside it during all types of educational activities. To effectively support the organization of this type of work of students, a mobile course in the discipline being studied has a huge potential, which is a logical continuation of classroom classes. One way to

solve this problem is to create dynamic mobile courses in the Moodle system.

Quite often, students reduce independent activities, and in particular independent work (as a component of this activity), at best to homework, which is an extremely limited option. Independent activity of the student should include all types of work in the classroom and outside of classes. Thus, for the organization of effective independent work of students, it is necessary to observe a number of conditions, one of which is the active activity of the student in the classroom and outside it.

In addition, the use of M-learning allows you to apply new types of tasks for independent work: searching and posting a set of links to Internet resources on the topic under study; reviewing websites on the topic under study; writing and posting an abstract (using wiki technology); analyzing posted abstracts on this topic, evaluating them, creating a rating of student papers; compiling a glossary; discussing problems in a forum; student counseling (more prepared students answer questions from their classmates) , etc.

Some advantages of using mobile learning technologies in the process of independent work of students: individualization of the learning process – the ability of the student to choose the mode, time and place of work; constant feedback from the teacher and the learning community; increasing the motivation of students through the use of familiar technical means and virtual environment; creating a personalized professionally-oriented learning space for the student; developing skills and abilities for lifelong learning; the possibility of objective electronic control and self-control of students ' knowledge.

Mobile technologies and devices introduced by the teacher in the educational process also expand the possibilities of organizing independent work of students. In addition, the pedagogical potential of the Moodle educational environment in creating training courses that meet the new standards of education is beyond doubt, since the technologization and individualization of the educational process in general and the independent work of students in particular allow creating a single working space for all participants in the educational process: teachers and students.

CONCLUSION:

Thus, the use of mobile devices is extremely promising from the point of view of mobility and the possibility of self-learning in situations previously unsuited for this. In the future, teachers and students should no longer be limited to the ability to teach and learn in a specific place and time. Mobile devices and wireless technologies will become a daily part of learning in the near future, both inside and outside of classrooms. The use of mobile technologies in education allows not only to effectively organize the independent work of students, but also to increase the motivation of students through the use of new forms and methods of teaching.

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