

MOBILE LEARNING AS NEW FORMS AND METHODS OF INCREASING THE EFFECTIVENESS OF EDUCATION

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ABSTRACT

The article discusses the main directions of the use of mobile learning in modern education. It is noted that despite the wide distribution and accessibility of mobile phones among students, mobile learning is poorly distributed in domestic universities. The main advantages and some disadvantages of the use of mobile learning in education are analyzed. The specific forms and methods of introducing mobile learning in the educational process of domestic universities are given. The technical and psychological readiness of students to use mobile technologies in training is analyzed. It is concluded that most modern university students are technically and psychologically ready to use mobile technologies in education and it is necessary to consider new opportunities for more efficient use of the potential of mobile learning.

Keywords: Mobile technology, mobile training, mobile application, mobile phones, students' readiness for mobile learning.

INTRODUCTION, LITERATURE REVIEW, METHODOLOGY

The evolution of wireless technology and the development of mobile applications in education are impressive. For many teachers of secondary schools and higher educational establishments of mobile technology in education in recent years has become one of the most important areas of research and application. Today, mobile learning is a strategic topic for many educational organizations. The emergence of new types of devices and applications is changing education, so it is important to ensure the proper use and implementation of mobile learning. Over the past few years, mobile technologies have been developing rapidly due to the improvement of wireless communications, the expansion of the functionality of mobile devices and the advent of open-source mobile platforms. Currently, mobile devices can be used not only for communication, but also for educational and commercial purposes. To support these capabilities, various mobile applications are being developed [10]. In the modern world, mobile technologies cover more and more areas of human activity. The growth of the mobile applications market shows the importance, convenience and relevance of the use of mobile systems in all spheres of life, including educational ones.

In 2010, the UNESCO Institute for Information Technologies in Education published an article called "Mobile Learning", which noted the important role that mobile devices play in the lives of modern students. The realities of our lives are such that far from all students use traditional sources on paper, such as textbooks, study guides, dictionaries, for training, and they draw almost all the information from the Internet, directly using a computer, mobile devices. The

widespread use of the above devices allows modern teachers to make them assistants in the organization of the educational process. So there was a technology called m-Learning [5]. Also, UNESCO documents, within the framework of the Global Education 2030 program, said: “In the next fifteen years, mobile learning will become more integrated with general education and will become a common phenomenon in the system of formal and non-formal education. As an improved connection between technical and pedagogical innovations, mobile technologies will take on a clearly defined, but increasingly significant role in the general education ecosystem” [14]. And mobile technologies have great potential to accelerate progress towards this goal [13].

Mobile Learning, or m-Learning, is a new direction in pedagogy and education, which is organized using mobile technologies.

M-learning is learning with the help of mobile devices at any convenient time and in any place, this definition is given by D. Kisco [8]. V. Kuklev, notes that mobile training provides for the availability of mobile means, regardless of time and place, using special software on a pedagogical basis of interdisciplinary and modular approaches [9].

D. Taxler defines mobile learning as any educational service where the only or predominant technical means is a portable or handheld device”[15]. R.I. Bazhenov and I.N. Golitsin also noted that “the uniqueness of mobile learning is represented by the fact that students are not tied to specific places and time, since training materials are always available to students, access to it is always available, this allows students to get used to the idea that training always happens and everywhere, in any convenient place” [1, 2, 3]. The same idea of the impact of technology on students' understanding can be traced in the statements of W. Horton, in which the following definition is given to mobile learning: “mobile learning is the acquisition of knowledge and skills using mobile technologies and devices at any place and time, and this corrects the behavior and the mentality of students”[6].

S.V. Bazilevich and V.R. The deaf, describe mobile learning as “a combination of technologies orienting a student to new styles of education and aimed at lifelong learning in the information society, and which allows developing skills for a sustainable and fulfilling life, and promotes self-improvement throughout life” [10].

C. Horton also emphasizes that “mobile training and education modifies the learning process, since the use of mobile devices changes both the forms of presentation of materials and the ways of access to it, and also contributes to the selection and creation of new forms of transferring knowledge and mentality. Learning takes on such important characteristics as timeliness, sufficiency, and personalization, and these characteristics contrast with the characteristics inherent in blended learning and e-learning, where other characteristics come to the fore: interactivity and multimedia, structuredness and modularity, as well as accessibility. There is a change in the balance between the learning process and the direct participation of the learner, and it is these changes that make mobile learning a new form of learning that differs from other existing forms of learning.” [6]. The same point of view is supported by V.A. Wexler and L.S. The Green Circle, which divide education into 2 forms - mobile education and combined education, which emphasize the individual and informal nature of education forms [11].

S. V. Titova considers possible options and goals for using mobile devices and technologies in the educational process [11]: they are connected to the information system of the educational

organization and provide round-the-clock access as an alternative to stationary computers, and are also used for convenient implementation of joint work and projects, and also group lessons; can also be used for non-formal learning as multimedia devices - video and audio shooting, communication tools; can be used as a means of communication and interaction due to the great remoteness of the student or teacher; can be used to organize, control and administer the learning process.

I.N. Golitsyna and N.L. Polovnikova consider the following advantages of using mobile technologies and devices in the learning process [4]: students can interact with all participants in the learning process and with each other at a significant distance; in the classroom it is much easier to place mobile devices and equipment in the classroom than stationary computers; mobile devices and electronic books are much more convenient and easier, and also take up much less space than printed books, file cabinets, and stationary computers and laptops; the use of a stylus and touch screens becomes more obvious than when using a computer keyboard, mouse; there is the possibility of teamwork and direct participation in teamwork, and the exchange of knowledge, the transfer of teaching materials to students is simplified, it becomes possible to make group edits and mailing documents; it becomes possible to use mobile devices for learning at any place and time, while traveling, this gives a greater advantage for people with disabilities and for foreign students; mobile devices and gadgets attract young people, and this increases the interest in learning for people who are not able to learn in the classical ways, and gives a chance for learning interest for those people who have previously lost interest in it.

RESULTS, DISCUSSION

After analyzing the above definitions, we conclude that mobile learning is a form of organization of the educational process in which mobile means, methods, devices and production processes used by society to collect, store, process and disseminate information are used to achieve educational tasks information communication technologies and wireless. Mobile learning can be called learning, in which the student has continuous access to the learning resource, as well as the opportunity to interact with the teacher and classmates.

The use of mobile learning technology in the educational process of universities allows: to provide control over the level of students' knowledge with the help of a testing system, thereby simplifying tests and tests; accelerate the exchange of educational content between all participants in the educational process, which will simplify the process of interaction between teachers and students; to intensify and modernize the educational process; organize a distributed mobile educational resource; to ensure the joint activities of students without reference to the location of participants in the educational process; use a mobile device as a personal library of educational, methodological and reference materials; students can interact with each other and with the teacher, and not hide behind large monitors; it's much easier to place several mobile devices in the audience than several desktop computers; pocket or tablet personal computers and e-books are lighter and take up less space than files, papers and textbooks, and even laptops. Recognition using a stylus or touch screen becomes more visual than using a keyboard and mouse; There is the possibility of sharing tasks and collaboration; students and teachers can send text via e-mail, cut, copy and paste transfer devices within the group, work with each other using a wireless network, for example, Bluetooth; mobile devices can be used anywhere, anytime, new technical devices, such as mobile phones, gadgets, gaming devices, etc., attract educators who may have lost interest in education; M-learning through a mobile device makes learning individual Students have the opportunity to choose the content of training, taking into account their interests; flexibility, immediate access to the information necessary for a specific job using mobile devices can improve productivity; self-study and

immediate provision of content on demand are characteristic features of m-learning. It allows users to receive training after hours and creates conditions for joint training and interaction; The latest trend in education is blended learning, which makes the process more efficient and interesting. It combines the advantages of various forms of learning and is best suited to the learning context in an interactive learning environment. Mobile learning can be combined with other types, providing an interactive learning environment for students. However, it is also necessary to note the following possible disadvantages: small mobile screens handheld personal computers limit the amount and type of information that can be displayed; there are limited opportunities for storing mobile phones; Batteries must work regularly, otherwise data may be lost; they can be much less reliable than desktop computers (although tablet personal computers solve this problem); it is difficult to use work with graphics, especially with mobile phones, although 3G and 4G ultimately allow this; the market is changing rapidly, especially for mobile phones, so devices can become outdated very quickly; bandwidth may decrease with a large number of users using wireless networks. In this regard, the future of the field of mobile learning requires the joint efforts of mobile manufacturers, mobile service providers, as well as experts in the training industry. Currently, the following categories of mobile learning exist: Technology-driven mobile learning - some specific technological innovations are located in an academic environment to demonstrate technical feasibility and pedagogical capabilities; miniature but portable e-learning (Miniature but portable e-learning) - mobile, wireless technologies and portable technologies are used to reproduce approaches and solutions that are already used in conventional electronic learning tools. For example, the transfer of some e-learning technologies, such as the virtual learning environment (VLE), to mobile technologies. Or flexible replacement of static desktop technologies with mobile technologies; Connected classroom learning — The same technologies are used to support collaborative learning, possibly in conjunction with other technologies, such as interactive whiteboards; informal, personalized, situational mobile learning (Informal, personalized, located mobile learning) — the same technologies are enhanced by additional functionality, for example, local awareness or video transmission, and are aimed at educational activities that would otherwise be difficult or impossible; Mobile training / performance support - technologies are used to increase the productivity and efficiency of mobile employees, providing information and support, right on time and in the context of their immediate priorities; Remote / rural / developing mobile learning - technologies are used to solve environmental and infrastructure problems provided to education and supporting it where conventional electronic learning technologies could not work. Let us dwell on specific forms and methods of introducing mobile technologies into the educational process.

The first (and most common) way is to use a mobile phone as a means of access to the global network. It is possible to organize access to specialized sites containing electronic training courses, tests, practical exercises and additional training materials (drawings, photographs, sound and video files). It is also possible to exchange e-mail for educational purposes and exchange instant messages in ICQ, QIP, versions of which exist for mobile phones. Thus, at all stages of training, there are many opportunities for transmitting information materials to the trainee, as well as monitoring the entire learning process and helping to solve problems.

The second way to use mobile phones for training is to use special programs for cell phone platforms that are able to open and view office program files, such as Office Word, Power Point, Excel. Thus, having files containing training information in the mobile phone's memory, one can view their versions adapted specifically for the phone's screen, with convenient scroll bars, a suitable font and a convenient interface. Also, the source of information can serve as

video and audio files, player programs for which there is in every phone of the last years of release.

Another way to use mobile phones for training is to use specialized electronic textbooks and courses adapted for viewing and running students on mobile phones. They are invited to download Java-applications to their phones containing, for example, testing in certain subjects, as well as information (electronic textbooks, lecture texts) necessary for their successful implementation. Modern technologies make it easy enough to design and programmatically implement such electronic manuals. The ability to place diagrams, drawings and formulas makes writing electronic training courses for mobile phones universal and applicable to absolutely any subject studied.

It is also possible to implement training programs in the game shell using the graphics capabilities of phones, however, the implementation of such applications is a rather complicated and time-consuming process. As a result, writing electronic textbooks and subject testing programs for mobile phones seems to be a more promising direction. There are a huge number of special applications for mobile phones, such as calculators of varying degrees of complexity (simple, scientific), office programs for mobile phones, applications containing various tests with answers (for example, for psychologists), etc.

Thus, the wide technical and functional capabilities of mobile phones for educational purposes are applied as follows: they use the possibility of SMS-correspondence or instant messaging with the teacher to get advice; the ability to access the global network allows you to visit the necessary sites, exchange e-mail, send the necessary information files; passing testing on a mobile phone allows the student to independently control the level of knowledge of the subject; electronic textbooks for mobile phones provide an opportunity to receive new information regardless of the time and location of the student; the ability to play sound, graphic and video files provides advanced opportunities, especially for teaching language subjects and creative specialties, allows you to use a variety of sources and methods of obtaining knowledge, interest the student with unusual teaching methods; mobile analogues of language dictionaries and reference books, various types of mathematical calculators are convenient to use and are able to contain more complete and quickly updated information.

Summarizing the above, we can conclude that the introduction of mobile technologies in education: allows participants in the educational process to move freely; expands the scope of the educational process beyond the walls of the educational institution; makes it possible to learn for people with disabilities; does not require the purchase of a personal computer and paper textbooks, i.e. economically viable; allows educational materials to be easily distributed between users thanks to modern wireless technologies (WAP, GPRS, EDGE, Bluetooth, Wi-Fi); thanks to the presentation of information in a multimedia format, it contributes to a better assimilation and storage of material, increasing interest in the educational process. Obviously, to use the new opportunities of mobile learning in the educational process, organizational, research and methodological work is needed to introduce modern strategies, forms and methods of mobile learning into the educational process.

CONCLUSIONS

The introduction of mobile technologies in education: allows participants in the educational process to move freely; expands the scope of the educational process beyond the walls of the educational institution; provides an opportunity to learn for people with disabilities; does not

require the purchase of a personal computer and paper textbooks, i.e. economically viable; educational materials are easily distributed among users thanks to modern wireless technologies (WAP , GPRS , EDGE , Bluetooth , Wi - Fi); information in a multimedia format contributes to better absorption and memorization of material, increasing interest in the educational process. Thus, the feasibility of using these modern means of communication in training is obvious .

In the future, teachers and students of higher education institutions should no longer be limited by the ability to study and study at a specific place and time. In the near future, mobile devices and wireless technologies will become an everyday part of learning, both inside and outside the classroom. Most modern students are technically and psychologically ready to use mobile technologies in education, and it is necessary to consider new opportunities for more efficient use of the potential of mobile learning. The solution to this problem requires organizational efforts on the part of the heads of education, research and methodological work of scientists and teachers to implement strategies, forms and methods of mobile learning in the educational process of higher education institutions.

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