



METHODOLOGICAL ASPECTS OF DEVELOPING MULTIMEDIA E-LEARNING COURSES

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ABSTRACT

The dynamic development and availability of information technologies cause the spread of new forms of education. One of them is e-learning, during which technologies and various types of media are used in the educational process (for example, a computer or smartphone with constant access to the Web network). The purpose of this learning model is to meet the obvious need of people for lifelong learning. Currently, e-learning is mainly used in two areas: employee training in large companies, as well as in universities. This significant development of global e-learning has been made possible by the development of the Internet and multimedia technologies. Thanks to the multimedia content and the technical quality of the connection, the level of satisfaction of participants in online courses is similar to the level of traditional learning. The article discusses the principles of e-learning and the specifics of the profile of participants in distance learning. The author paid special attention to the advantages and disadvantages of this type of education, which are of great importance both from the point of view of the student and the teacher. The information contained in this article only signals the problems that online course developers face, so the author encourages online teachers to conduct their own search for problems and try to find the most suitable distance course formula.

Statement of the problem in general terms and its connection with important scientific and practical problems. The development of digital technologies is now dynamic and noticeable in all spheres of modern life [1]. Most people already have online banks, online shopping, their own blog or social media channel, and finally ... e-learning [2, 23]. However, many people do not know or only vaguely understand the meaning of the term "e-learning". Knowledge about



e-learning becomes necessary for any person when this type of learning is used in almost all parts of the educational chain. E-learning is a kind of revolution, the results of which are compared with the invention of printing and the mass production of paper books.

E-learning is all forms of support and conduct of the didactic process with the help of information and communication technologies that do not require direct contact between the student and the teacher.

As soon as distance learning appeared in the field of classical education, disputes and discussions began about the extent to which online learning can be introduced into traditional education. Inappropriate comments appeared - "this should never be done via the Internet", "my subject is not suitable for remote study" or "how can I learn effectively via the Internet in general". E-education professionals openly acknowledge the fact that the remote learning process cannot completely surpass the traditional one [3, 23].

Given the degree of use of e-learning methods and techniques in the didactic process, one should distinguish between:

1. Blended learning is a way of combining remote and traditional classes in the structure of the curriculum, as well as their content and didactic functions. For example, the theoretical provisions necessary to acquire certain skills can be implemented during remote classes, while practical skills can be practiced in traditional classrooms. Or, on the contrary, theoretical knowledge and rules of work are discussed in traditional classroom sessions, and the project participants themselves carry out the project via the Internet, work on discussion forums and use joint chats to exchange content.
2. E-learning - the educational process takes place entirely through the Web-network, the teacher and students never meet in the classroom (the only exception can be an oral exam in person before the subject committee).
3. Mobile learning - learning using portable wireless equipment (laptop, tablet or smartphone) [4].
4. Support for learning by e-learning methods and techniques - in this case, the entire learning process takes place in the classical form (the teacher and students spend a certain number of hours in face-to-face classrooms), and digital learning methods at a distance serve to complement and support this process.

According to the degree of interactivity, the division of didactic processes in distance learning can be as follows:

1. A course in which the online student works only with didactic material posted on the Internet. This form of acquiring knowledge is called a "training manual", and teaching on it is used in the field of vocational training. Most often, this is education that requires the acquisition of knowledge with a low level of complexity, for example, training in the field of new communication rules in force in the organization. This type of education requires individual work, as well as conscientiousness and constancy, because the online student is not motivated by either the teacher or other participants in the educational process - he learns completely on his own and independently.
2. Courses with an electronic tutor, in which most of the online student's activity still consists of interaction with educational material [5, 23]. An online student performs individual tasks (self-searches for answers to questions, completes interactive exercises and



tasks with a ready-made answer, and solves test tests), but at the same time, he has the opportunity to receive support from an online mentor at any time. Such assistance may be in the form of one-on-one consultations via chat, video calls, or a virtual whiteboard of audio questions and written answers. In this case, the online teacher performs a consultative and auxiliary function (does not manage the educational process, does not check homework and does not inform about the deadlines for submitting work).

3. Virtual classrooms, in which the main control over the course of the didactic process belongs to the teacher, who reminds the deadlines, forms tasks and puts questions for discussion, checks homework and provides constant assistance. A large part of the e-learning process can be group activities - forum discussions, chats, webcasts, online group projects, although students can still work strictly individually. The online community makes it possible to solve such problems that would be impossible in the forms of education described above, and interpersonal relationships are a motivating factor in the successful development of the material.

In the Web 3.0 system, each user actively collaborates with other users and creates up-to-date knowledge resources [6]. A non-hierarchical model of obtaining and mastering knowledge is being formed, since all participants in the educational process are recipients and creators of content at the same time [7].

New educational content created as a result of the mass activity of users of the Web system is of equal importance in relation to the knowledge of teachers or to the materials posted on the educational platform [8]. Online students get quick access to other sources of knowledge co-created by many authors, in other words, they use social knowledge [9].

Social knowledge can be represented as the following applications:

1. Wiki pages. For example, the open source online encyclopedia Wikipedia, created by millions of Internet users.
2. Blog - a site dedicated to certain topics, on which the authors post chronologically ordered entries.
3. Social networks - websites created on the basis of the existing community of Internet users (the most popular in Uzbekistan are Facebook, YouTube or Instagram) [10]. Social networks involve a high degree of interaction between members of the community, the most effective exchange of information, through forums and discussion groups, and the exchange of ideas between members of the network in the comments.
4. Podcasts, screencasts, webcasts are multimedia technologies that provide the publication of audio and video streaming materials, with which you can make presentations in a given background in the form of a slide show [11].

Analysis of recent studies and publications that dealt with aspects of this problem and on which the authors substantiate; highlighting previously unresolved parts of the general problem. The importance and proportion of professions that require the processing of a large amount of information and knowledge is increasing. The demand for training aimed at developing the skills necessary for creative work in the labor market is growing. One thing becomes a fact - a modern person studies all his life.



The development of competencies is associated with the need to determine one's own limits of development and with a strong will to change [12, 23]. Due to the high rate of progress in almost all areas of life, human development must be continuous and dynamic.

In addition to the professional skills that are required in the labor market, there are the skills needed to achieve one's own goals in contact with other people, that is, the skills needed to manage oneself effectively. These include: the ability to generate a large number of ideas in a short time, the ability to choose the best solution, the ability to manage your time, perseverance in overcoming difficulties, tolerance and respect for different views while maintaining your opinion and openness to criticism.

The skills acquired during e-learning are associated with real knowledge of the problems in a certain area. They can be divided into:

- 1) mental abilities, for example, the correct analysis of a problem or logic;
- 2) interpersonal communication, such as teamwork and respect for other people's opinions;
- 3) organizational skills, for example, planning time for rest and work processes;
- 4) communications, for example, replacing non-verbal communications with written symbols (emoticons);
- 5) technical skills, such as programming and creating customer databases;
- 6) leadership qualities, for example, managing an IT project.

Another group of competencies formed in the process of e-learning is personal qualities related to the individual psychological properties of a person. People who study remotely have an above-average capacity for self-discipline and are more conscientious and creative [13]. E-learning gives independence to the online student in the classroom to a greater extent than in the traditional one and at the same time indirectly forms interpersonal relationships.

The last group of competencies are the individual interests of an online student, which can be transformed into tools for motivation and formation of an individual career. Distance learning gives students more opportunities to acquire practical knowledge, which means it allows them to increase their strengths in the labor market [14, 23].

When introducing e-learning, it is necessary to determine the portrait of a real online student in order to eliminate gaps and difficulties in learning [15]. A student for whom distance learning is being developed and implemented:

1. A person with insufficient time to devote to online learning due to professional and family responsibilities.
2. A person with reduced motivation to change their own life situation.
3. A person with low qualifications and poorly developed competencies useful for online learning.
4. Resident of a small community with limited access to universities, bookstores and libraries.
5. A person who is afraid of using modern IT devices.
6. A person who does not understand the meaning of e-learning.

The portrait of an online student described above poses a number of difficult tasks for everyone who develops and delivers e-learning courses [16].

The task of a person developing an e-learning course is to create the most capacious and functional educational potential for an online teacher conducting classes. At the stage of course development, it is necessary to foresee all possible didactic situations, incorrect



student behavior, low level of motivation, and the share of using programmed learning materials [17].

Conclusions of the study and prospects for further research in this area. In conclusion, attention should be paid to the process of mutual learning and exchange of experience between the participants in the didactic process. Both the student and the teacher using the media platform must demonstrate commitment to the learning process itself, as well as be interested in creating a favorable environment in which this process takes place [18, 23].

New technologies and an online learning environment require a change in the role and expansion of responsibilities for both the teacher and the students themselves. The teacher becomes a designer who must be familiar not only with the subject area being studied, but also with the methodology of e-learning [19]. The student must develop self-confidence, media communication skills and teamwork.

E-learning is based on several principles that largely determine its effectiveness:

1. The student learns when he has time and the need to solve a problem, and those topics that can be fully used in his work are studied first.
2. The acquired knowledge is directly applicable in practice.
3. The student's job is to cooperate with others [20].
4. The teacher is obliged not only to check the knowledge of the student, but also to constantly motivate and activate him for learning.
5. Online learning is based on the exchange of views with other students.

With e-learning, a virtual community is created between its participants and everyone becomes part of the educational process based on mutual learning, information exchange and knowledge exchange [21].

During online learning, students work in the educational community at three levels:

1. Get to know each other or find your colleagues online based on similarities related to location, training and level of motivation.
2. Create a community or students begin to feel the satisfaction of belonging to a particular group.
3. Fellowship is the highest level of community resulting from intensive communication between group members [22].

Conducting training based on virtual educational communities requires experience and more active participation of the teacher, who, in addition to the subject aspect, must take into account the personal dimension of students [23].

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