

MODERN APPROACHES IN EDUCATION – E-LEARNING



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Abstract. The article deals with the use of modern pedagogical learning technologies based on the use of ICT. The current need for the widespread use of other forms of education is the result of several current social phenomena, including those linked to providing access to education for members of the emerging information society. The crises that will survive today's education systems accentuate the mismatch of the traditional mission of the school with the new demands we face.

New and evolving approaches to learning and teaching that enable modern technologies are described by the author.

In the article digital technology is investigated as a common part of all areas of life. The article touches upon the issue of the forms of e-learning, its benefits and disadvantages.

Keywords: *modern approach, learning, teaching, educational process, interactive technology, e-learning, educational platform.*

Introduction

At present, significant changes due to the entry of technological innovation are indicated for education. The changes involve the teaching method and their perception by the pupils themselves. Given the trend in technology development within education, not only the teachers but also the students must be prepared for the active and creative use of new information and communication technologies. These can be used to improve quality and improve education and learning, as they can be better tailored to the needs of individual pupils and students therefore providing faster feedback. Using a modern approach to education, it is possible to support the achievement of the objectives of the Bologna process of modernizing the European Union in order to improve the quality and extend the reach of education throughout Europe.

E-learning. Education is no longer just a part of compulsory education, preparing for a future career but is becoming a lifelong mission. An ideal society should provide equal opportunities and access to education for all those who are interested. The pressure exerted on education also changes the strategy of educational institutions so that the design of education is taking into account the new requirements and possibilities of potential students' study. For all types of educational institutions, whether public, private or commercial, nowadays, if they want to meet the needs of education, only classical forms of teaching are not enough. Therefore, distance forms of education have come to the forefront in recent years.

It brings together not only didactic but also pedagogical goals and modern media, it also participates achieving the basic mission of all education: to liberate the human individual wherever possible, especially from limitation and ignorance. Telecommunications, computer networks, multimedia information and communication technologies have opened new avenues of learning for all kinds of educational institutions. Students can be educated independently of time and space. It is an easily accessible form of education, democratic and tailored to the needs of each individual, an education that will be provided everywhere and for all.

In today's globalized world, e-learning is an increasingly powerful tool, including adult education. In recent years we have witnessed

the electronification of almost all spheres of our society. E-learning, is and has ambitions to be a good tool also in higher education, given the decreasing number of full-time hours, as part of individualization in education, the personality traits of the current generation and the transformation of the current web. In terms of the quality of education provided, it is important to offer pupils and students innovative forms and methods of education, which undoubtedly include e-learning. There are a number of system solutions in e-learning that differ in the use of technology and are affordable (Piskura, 2017).

Emphasis is placed on independent learning, which has many different forms; different methodological approaches are used and it is as flexible as possible. Concepts such as independence, multimedia and interactivity are emphasized. It was created as a comprehensive set of educational principles and rules that enable people to study simultaneously with full economic and social activity and practically independent of the real distance from the educational institution.

The educational form is usually based on self-study, so that that the student will have complete study material. This can sometimes prevent a quite complicated search and collection of study materials. The study content is processed into a methodically produced and detailed study and electronic teaching materials. The study is continuously monitored and coordinated by an educational institution; Depending on the study needs, it is supplemented by a compulsory or optional meeting with the tutor (Oliveira, 2014).

Definition of e-learning. E-learning is any learning using ICT. Using new multimedia technologies and the Internet, it aims to improve the quality of the cognitive process, which will facilitate access to a variety of resources and services and allow the remote exchange of information and collaborative learning. The Educational Vocabulary defines e-learning as learning in which the acquisition and use of knowledge is distributed and facilitated by electronic devices. E-learning is an innovative approach providing a quality interactive learning environment, with a focus on learning, easily accessible to anyone, anytime and anywhere using a variety of digital technologies, as well as other forms of learning materials that are suitable for an

open, flexible and distributed learning environment.

Forms of e-learning. The basic condition for e-learning is the connection of the educational process with ICT. Given the wide range of technology applications, e-learning offers a range of services that are useful in teaching and learning and to some extent determine the appearance or form of e-learning. The basic division of e-learning takes into account whether or not the computer is connected to the network (Kabátová, 2013).

There are two types according to this criterion:

- **Off-line learning:** The student's PC does not have to be connected to the computer network. The study material is distributed on various data carriers. This form of e-learning is known as CBT - Computer Based Learning. In general, the term CBT is used to denote any support for the educational process. This method is currently used primarily for home preparation of pupils or students working with educational programs. Its disadvantages can be considered the impossibility of simply and rapidly updating the education's content and direct communication between participants.
- **Online education:** the condition is the involvement of the pupil's PC in the computer network. The study material is distributed through a network of channels. In addition, distributing educational content, this form of communication also enables communication between students and teachers and between students. Communication can take place in two ways, asynchronously and synchronously.
- **Asynchronous** - Participants are not logged in at the same time and can only communicate with each other using asynchronous means of communication. Asynchronous learning refers to real learning anywhere, anytime; the student is not dependent on anyone and studies when and where he/she wants; such as CD-Rom learning, educational audio and video media, or discussion forums. Asynchronous studying is characterized by the fact that the student spends most of his time guided by self-learning. Greater demands are placed on student autonomy. The principle of group work is suppressed and the student is not motivated to acquire new knowledge from classmates. In the

same way, natural competitiveness is suppressed and so a higher motivation of the student is needed. The advantage is independence from time, place, as well as a weak Internet connection.

- **Synchronous** - all participants are simultaneously logged in and communicate in real time; this is on-line communication between students and tutor; everyone can be in different places, but at the same time, the condition is an internet connection; examples of synchronous communication include online courses, audio/video conferences, internet calls, virtual classes, chat. This is based on the assumption that the study is conducted using virtual classes, videoconferences or discussion forums. The question of group cooperation, which arises from the possibility of synchronous communication, comes to the fore. Students can work together, create projects and motivate each other (Barešová, 2011).

Education through videoconferencing.

Video conference learning brings the specifics of the challenge whether we are participants as proponents, providers or trainees in educational lessons. However, there is also a need to invest in education and training for all players, in particular focusing on the methodological aspects of using videoconferencing and ensuring that the resulting work is carried out effectively. Videoconferences are a form of synchronous remote communication via audio and video transmission and the possibility of integrating text and other forms of information presentation. The quality of this form of communication depends on the communication technologies used and the transmission communication network.

The participants in the videoconferencing training process are usually spatially distant from each other. Separation in space is typical of education, referred to here as distance.

Videoconferencing opens up new opportunities for education in virtually every area of life today, whether it's education for doctors, biologists, managers, and the like. This brings us to the next relevant keyword, open education. Terms such as open, distance and flexible education are based on a concept other than traditional learning (Chovanec, 2018).

Basic principles of videoconferencing.

Video conferencing is currently one of the most modern means of communication between people. It is based on two-way audio and video communication, allowing participants to communicate with each other, see and hear each other, even though they are often very distant geographically. This is synchronous communication that actually requires the participants to be physically present at the same time but not tied to its location.

Generally speaking, videoconferences are taking communication to a new quality level, which is very important in today's collaborative working style. Video conferences provide the opportunity to communicate via electronic channels in the most natural form, because both audio and video are transmitted at the same time. Video transmission is not the only added value that video conferencing enriches communication. In addition to the usual communication activities performed when calling a videoconference, it not only allows us to see the partner we are communicating with, but also lets us develop new ways of collaborating between the participants in the communication. It is possible to watch documents open on a computer during one video conference meeting and even allow any participant to edit them. It is also possible to share a common desktop and actively intervene, or hold discussions and share files with the necessary data (Nemec, 2018).

Conclusions

Benefits. The benefits are obvious. The fact that video conferencing improves communication increases productivity and reduces costs. It is not necessary to travel to see and hear students who are in distant places. Students can be shown all the necessary things such as pictures, graphs, videos, computers, files, pictures, as well as allowing them to talk to experts, letting them solve various tasks while watching them solve them. And in return, students can do the same things; they can show their video sequences, charts and photos. The role of the teacher is to develop a discussion on a given topic, as well as to foster student conversation.

Videoconferencing enhances the quality of education by creating conditions for natural communication where there is no other solution. Videoconferencing meetings are often more efficient because they are usually time-limited and carefully planned. Videoconferencing is great for distance learning. With this technology distance learning is hardly distinguishable from the traditional classroom. The teacher does not have to rely on the fact that, for example, the assignment sent by post is produced by the student him/herself, but he/she can be in control of the process. Video conferencing can address situations for schools where teachers who attend lectures from a distance are taught. It would save time and money.

Video conferences help reduce the costs of educational institutions as educational needs grow in the following ways:

- new information can spread more quickly,
- participants' needs can be met more quickly by learning in real time,
- more participants can be trained more quickly without increasing training centers,
- experts in the field can participate in education at low or zero cost,
- the timetable is more flexible - courses can be offered at any time during working days,
- participants and their teachers can stay in their usual work place, increasing employee availability and significantly reducing travel time and costs (Langer, 2016).

Disadvantages. Obviously, videoconferencing is simply trying to replace the full-time form of education by using electronic means. There are areas where this compensation is not sufficient and therefore videoconferencing is not always an adequate form of reporting. The teacher must respect the technical limitations of this technology. He/she must avoid all sudden and rapid movements, not come out of the camera range, also some fine details or facial expressions may be misinterpreted in the video encoding and decoding process and even if it sounds counterproductive, using image compression is recommended to reduce the visual information we send.

Another disadvantage is that the electronic connection is a delayed communication process, interactive communication (even if it takes about one second) can hinder the rapid communication of subscribers, so it is necessary to have patience when waiting for a response. Another limiting factor is the reliability of the connection. The connection can be broken maybe because of line congestion or accidental connection error. The cause is often due to poor operating videoconferencing equipment or incompatibility with the standard. Videoconferences are used within both traditional and distance learning. The goals and methods of using them in these two different applications may differ. However, the basic methodological principles remain the same in all applications. Video conferences should be used to provide the best of traditional and distance learning: combining face-to-face meetings with well-prepared study materials (Kalaš, 2013).

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