



Original Contribution

REVIEW OF DISTANCE EDUCATION

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ABSTRACT

The current study discusses the nature of distance education. It indicates the main characteristics which distinguish distance from traditional education. The study also summarizes the advantages and disadvantages of distance education. It discusses the new technologies by which this form of education is implemented. The study also emphasizes Web-based education which is prevalent and growing in popularity.

Key words: distance learning, information and communication technologies, Web-based education

INTRODUCTION

The appearance of distance education is connected with the changing conditions in economical, social and technological aspect. Better literacy and more comprehensive education are needed. Distance education gives an opportunity to everyone to learn throughout their entire life. The means of communication – mail, mass media, Internet are necessary for its existence. Distance education depends on development of information and communication technologies. It can be as efficient as traditional education when there are appropriate methods and technologies about its realization.

NATURE OF DISTANCE EDUCATION

1. History

The idea of distance education originates from the nineteenth century. Distance education used available communication technologies in these years – correspondence via mail. The mail services were inexpensive way of communication and they were at the root of distance education. Teachers sent materials such as lectures, instructions, assignments to learners by mail. The learners returned completed assignments to the

teacher. He corrected, evaluated and sent them back to the participants in the course.

In 1840 in Great Britain Isaak Pitman implemented distance education shorthand via correspondence. During the same time language courses were carried out in Germany via correspondence. In 1873 in the USA Anna Ticknor created a society, which provided learning opportunities to women in their homes (1).

The introduction of new technologies such as radio and TV set a new stage for the development of distance education. Audio and video materials became part of education along with printed materials. This allowed for visualization of education and increased its effectiveness.

The third stage in the development of distance education is based on the development of digital technologies and usage of Internet as an educational environment. The interaction and communication among participants in education are widely used and as a result we observe more effective learning.

2. Nature and characteristics of distance education

Distance education is a form of education in which the participants in educational process – teacher and learners are physically separated and communicate by different means and at different times.

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From this definition we can differentiate the main characteristics of distance education:

- Separation of teacher and learners in space and time;
- Use of different media to realize the interaction among teacher, learners and educational content;
- The provision of two-way communication between teacher and learners;
- Control of the learning process by the learners rather than the teacher.

Examining the nature of distance education we can indicate its special features, which distinguish it from traditional education (2):

- **Sociability** –distance education satisfies the continuously changing needs of society for educated staff in different fields of human activities;
- **Flexibility and independence** –distance education gives an opportunity to learn independent from time and place. The learners define self-pace learning.
- **Individuality** – the teacher personalizes the distance education courses in keeping with characteristic features of learners. He chooses suitable technologies for distance education.

Participants in distance education are teachers, learners and learning content.

In distance education **teachers are assigned a new role**. In contrast to traditional education where the teacher is a main figure in the education – he presents the lectures and controls the degree of assimilation of the content, in distance education his participation is reduced to a management adviser and coordinator to the learning process. The control over the whole process of education is shared between teachers and learners.

As a result **the learners have a new role**. From passive participants in the educational process, they take a central position in distance learning. The learners are those who determine the speed of learning and preparation. Self-control and the self-evaluation are very important.

The learning content is composed of materials already used in traditional education or specially created for distance education. The existence of modern information technologies allows for diversification of the learning content with voice, pictures, and videos. The learning content is dynamic – it can be renewed continuously. Materials are delivered to learners by using new communication technologies – mail, mass media, Internet.

Distance education requires **interaction** between participants in the learning process. The interaction determines to a certain extent the effectiveness of distance education. Moore specifies three types of interaction (3):

- **Learner-teacher interaction:** provides motivation for education, feedback, and dialog between these participants. Learners consult teachers in various ways. The feedback is very important and gives teachers indication about the level of learning. Feedback should be timely in order for the teachers to be able to correct and adapt the learning content based on the circumstances and the needs of learners.
- **Learner-learner interaction:** includes formal and informal communication between learners. Isolation is an essential problem in distance education. It can be overcome by exchange of information among students: exchange of ideas and dialog through discussions, working together and solving issues.
- **Learner-content interaction:** includes the methods of delivering content, various ways for navigation through it, and searching for specific information.

According to some scientists the use of new information and communication technologies in distance education is related to the emergence of a new type of interaction – **learner-technology interaction**. They note that this interaction is an important component which influences the effectiveness of education. If a technology which delivers instruction is complicated and learners do not have the basic skills required to use it they will spend inordinate amounts of time to learn to interact with the technology and have less time to learn the lessons.

Communication between participants in distance learning is **synchronous** and **asynchronous**:

- **Synchronous communication** allows participants to take part in learning at the same time. Feedback is immediate. Synchronous communication is realized by telecourses, teleconference, chats, etc.
- **Asynchronous communication** gives an opportunity to learners to connect to the teacher or connect with each other at a convenient time and place. Asynchronous communication is realized by email, audiocourses, discussion boards, etc.

3. Advantages of distance education

Distance education has some fundamental advantages (4, 6):

- **Flexibility and independence.** Distance education is education at a convenient place and time and is self-paced learning.
- **Wide learner audience.** Numerous learners take part in distance learning courses as compared to traditional education.
- **Accessibility.** Distance education overcomes some limitations for certain groups of people – older people and people with disabilities; people who live in remote places; people who work and cannot disturb their work. Distance education helps them combine learning with their jobs. People from different social, cultural and economical groups are integrated.
- **Life-long learning.** People can study throughout their whole lives in different fields of knowledge.
- **Economical effectiveness.** Distance education cuts down expenses for learners and for the institution which organizes this form of education.

Distance education is applicable not only in educational institutions but also in businesses. Business companies can use the advantages of distance education to train specialists or improve the qualifications of their staff.

4. Disadvantages of distance education

Distance education has some disadvantages (4, 6):

- **Isolation.** Learners in distance education courses are separated from the teacher and sometimes feel uncomfortable because there is no visual interaction with other participants. Learners sometimes feel lack of support and reassurance in moments when the learning content is more difficult and they have problems with it.
- **Loss of motivation and self-discipline.** Motivation is a basic agent in distance education. Loss of motivation will bring negative results. Learners should be strongly motivated in order to finish their education. Self-discipline is linked to motivation. In most of cases the teacher controls a final due date for individual tasks and projects, but learners are responsible for its implementation. Loss

of motivation and self-discipline can be noted in certain cases.

- **Short period of courses.** Distance education courses are shorter than traditional ones. This requires assimilation of the learning content in a shorter period of time and could be difficult for some learners.
- **High costs.** At the beginning of the development of distance education course expenses are considerable – not only financial, but also time. Teachers spend a lot of time to prepare and structure the whole course – time for examination of the audience, review of existing learning materials and already created courses, time for preparation of learning instructions.

DISTANCE EDUCATION TECHNOLOGIES

The development of distance education is related to the development of new information and communication technologies. Some of the existing technologies are an addition to traditional education, while others can substitute it entirely. Some technologies do not provide interaction between learners, others do in various forms. Another point of view is that some technologies emphasize synchronous education – learning and interaction in real time, others – asynchronous education – self-pace learning.

The various technologies used in distance learning can be divided into four categories: print, audio, video and computer. However, many of the technologies overlap into more than one category (5-6).

1. Print technologies

In the opening stages of distance education correspondence by mail was the main delivery method to learners. The print materials included books, textbooks, and manuals. The advantages of the print materials are related to the opportunity for flexibility to learn in convenient time and place for learners who can learn own pace. Most learners are very comfortable using print materials, which are easy to use. The disadvantages result from slow speed of delivery of materials, and the lack of communication and feedback between the participants in the educational process. The print materials are static and they do not use multimedia objects.

2. Audio technologies

This group includes audio cassettes, radio, telephone, and audio conference. With audio materials we can demonstrate different ways to learn specific skills by learners. Some of the audio materials provide two-way connection and this increases interaction between the participants in the education process. Most of the audio technologies are relatively inexpensive. They are easily accessible and easy to use. The main disadvantage of audio technologies is that abstract and more complicated concepts are difficult to understand without video materials and visual contact with the teacher. On the other hand, audio conferences require synchronization between the teacher and learners and sometimes this is inconvenient.

3. Video technologies

This group contains video cassettes, satellite and cable programs, and video conference. Video materials allow audio and video communications which make distance education similar to traditional education. Video technologies enable face-to-face interaction between teacher and learners and among learners. Video technologies combine images, digital and analog information. They are expensive and require a great deal of planning, preparation and must be scheduled.

4. Computer technologies

The use of computer technologies in education gives an opportunity for computer data storage of learning materials and accessibility around the world. Computer materials can contain text, graphics, audio, and video. Computer technologies allow high level of interactivity and immediate feedback.

In conclusion we could say that there are many technologies for delivering of learning content. Technology is an important factor in achieving effective education. The determining agents when we choose the technology to implement distance education are the goals, the specifics of education and the intended educational group. In many cases combined use of different technologies leads to increased effectiveness of education. The disadvantages of one technology can be overcome by another. The advantages of certain technology can be strengthened by the use of an additional technology.

WEB-BASED EDUCATION

1. Distance education via Internet

The use of new computer and communication technologies and the wide-spread use of the

Internet in every aspect of our life reflect upon education and leads to considerable changes in the means and methods of education. Each of the stages of learning – the preparation of learning materials, the delivery to learners, and the process of knowledge evaluation and control are based on these new technologies. Distance education via the Internet is becoming widely used and important.

Distance education via the Internet is a form of a distance education which uses various Internet services – email, file transfer, WWW.

A new stage in the development of distance education is Web-based education. It is used not only in educational institutions, but also in administrative and business organizations.

2. Nature of Web-based education

Web-based education uses WWW as a virtual environment to present learning materials in order to implement the education process. This environment includes all educational processes – from lectures, assignments, and seminars to learners' evaluation. The interaction between the teacher and learners could be asynchronous (email, bulletin boards, file transfer) or synchronous, in real time (chats, discussion forums, audio and video conference). The specific features of Web-technology assume quick realization of all learning activities. Web-based education could be an addition to traditional education or it could substitute it.

3. Advantages of Web-based education

Web-based education has all the advantages of distance education, but due to the use contemporary communication technologies it presents new considerable opportunities (7):

- **Global accessibility.** WWW is a tremendous depository of information and provides users vast resources. There is an enormous amount of learning materials in various fields of knowledge and they are accessible from all over the world.
- **Actual and dynamic changing learning content.** Learning content is dynamic and the teacher can renew it continuously. The process of actualization of the learning materials is easy and quick. The computer materials are reusable. Most of them can be used repeatedly in different distance education courses.
- **Media objects.** Web-based education provides interactive means to present media object – documents, video and audio materials. Media objects can be

built in learning content by information technologies.

- **Searching of learning content.** The main characteristic of WWW is navigation through hyperlinks. The students navigate from one learning resource to another. They can search the education content. This allows distance education to spread out of the boundaries of the particular course.
- **Wide range of activities and assignments.** Web-based education includes various activities and assignments which develop different students' skills. The circle of education is closed by the existing test and task systems. These systems increase the control and self-control upon the students' knowledge.
- **Actual feedback.** The teachers receive actual information about the students' level of assimilation of learning content and can emphasize on complicated elements.
- **Good communication between participants.** There are means for communication between participants. The teachers help students in solving problems.
- **Multiplatform technology.** Web-based education is independent from operating system. Interfaces for the Web exist on all platforms. Students need only a web-browser to use WWW. They do not need preliminarily education about how to use the materials in a course, because the interface is graphical and the environment is user-friendly.

4. Disadvantages of Web-based education

- **Security of information.** One of the main disadvantages of Web-based education is the security of information in Web space and reliability of the systems for distance education. The efforts of the creators of these systems are aimed at their protection from illegal access.
- **System failures and connection speed.** Big problems are the systems' failures although most systems for distance education have archive and backup copies. The main environment for delivering information to students is WWW. This requires fast-speed connection. In cases of synchronous

communication slow-speed connection can disturb normal learning process.

- **Waste of time.** The development of the Web-based courses is connected with waste of time. At the beginning expenses are significant but further support is much simple.
- **An authenticity of information.** There are so many resources in Web. The main problem is related to the authenticity of information. The searching of the learning content in Web finds many results and many of them are not qualitative enough.
- **Copyrights.** A very debated question is the problem about copyrights of the electronic materials. Unfortunately, synonymous decision is not made.
- **Difficulties of implementation of some pedagogical approaches.** The Internet gives large opportunities but some pedagogical methods of approach cannot be carried on in this environment. The specific disciplines might exclude application of computers and virtual medium for their implementation.

CONCLUSION

Distance education becomes more and more prevalent in contemporary society. It is an integral part of education regardless of its form and technologies used. In the center of the intention of the teachers are the necessities of the students and their specific features. Many various approaches for presenting the learning content and technologies for delivering it to students exist. They are subsidiary means for education and can increase its effectiveness. Distance education courses are effective when they are carefully planned in consideration with students' needs and profile. The learning content should be designed to be useful to them. The appropriate technologies for implementation of distance education courses are selected after that. The teachers' efforts should be turned to overcoming the existing risk of shifting the emphasis from the essence of the learning content to the technologies for its presentation and delivering.

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