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DISTANCE LEARNING TECHNOLOGIES

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Distance learning, which is sometimes called e-learning, is a teaching and learning system specifically designed to be carried out remotely by using electronic communication. Distance learning has a number of advantages over traditional education: it makes it possible for students to overcome financial and geographic limitations. It gives students the flexibility to study when and where they want at their own pace. Students with scheduling problems can benefit from this study mode, because distance learning is more flexible in terms of time and can be delivered virtually anywhere.

Long before the Internet was launched, some distance courses were offered to provide students with particular courses to develop particular skills. In the 1840s Isaac Pitman, a qualified teacher, taught his students shorthand via correspondence. In 1924, the first testing machine was invented. This device allowed students to tests their knowledge. Later, in 1950s, the first 'teaching machine' started to offer students programmed instruction. In 1960 the first computer based training program was developed. This computer based training program (or CBT program) was known as PLATO-Programmed Logic for Automated Teaching Operations.

The first e-learning systems were intended primarily for delivering information to students. In the 1970s e-learning started to become more interactive. In Britain, the Open University used television studios for delivering distance courses in the form of television broadcasts for students who could not attend full-time and campus-based classes. Initially, tutors and students communicated by correspondence. With the Internet, the Open University began to offer a wider range of interactive educational experiences as well as faster correspondence with students via email. At present, the Open University uses a variety of methods for teaching, including written and audio materials, television programs and disc-based software.

Several European countries found inspiration in the British Open University and in many cases used it as a model. Early followers of the British Open University in Europe were the Fernuniversität Hagen in Germany, the Open Universiteit in the Netherlands and the Universidad Nacional de Educación a Distancia (UNED) in Spain. In Sweden, Norway and Finland distance education has been systematically introduced across almost all universities since the 1970s to take advantage of the developments in educational technologies and as a way of reaching students from a wider variety of backgrounds.

At present, distance learning features a number of advantages:

– accessibility for students living away from educational institutions;

– saving time that is otherwise spent on commuting;

– flexibility to study in any convenient location with an Internet connection;

– self-paced learning, i.e., it is possible to study materials at a personal speed and intensity, without having to wait for slower pace of the average classroom;

– flexibility to join conversations in discussion areas at any hour, and to review your classmates' comments since the previous visit;

– flexibility for students with irregular work schedules;

– accessibility for students with restricted mobility (e.g., handicapped, injured, elderly);

– accessibility for those with family responsibilities (e.g., parents with young children at home).

Distance education has developed as technology has advanced. The Internet has made it possible for students and teachers to easily access information from their personal computer. The Internet technology offers open educational resources and facilities, e.g., MOOCs. Massive Open Online Courses (MOOCs), as a particularly new form of courses, entered the market in 2008. In January 2013, the European University Association described MOOCs in the following way: online courses; with no formal entry requirement; no participation limit; free of charge; no credits. MOOCs providers are often 'either for- or non-profit private companies, partnering with universities or individual scholars, and providing services for them. The usual division of tasks is that the universities or the individual academics are responsible for the content (and the quality) of the courses, whereas the company is in charge of the production and its technical facilitation' [1–5].

Distance learning technologies are divided into two groups based on the mode of information delivery: asynchronous communication and synchronous communication.

Asynchronous communication is communication between teachers and students that is not simultaneous, it uses recorded instructional materials. This technology allows participants to be separated in time and distance from the delivery of instruction. Students are able to follow the curriculum at their own pace without having to worry about scheduling problems. This may be a perfect option for self-disciplined and self-motivated students who enjoy doing research on their own. However, the students who lack the motivation to do the coursework autonomously may find it difficult to follow the course and observe deadlines. In addition, asynchronous learning can lead to feelings of isolation, as there is no real interactive educational environment. Thus, telecommunications systems such as broadcast television, or electronically stored media, e. g., video, audio, and computer software are among the technologies that utilize asynchronous communication. Examples of other distance learning technologies that are asynchronous in nature include voice mail, bulletin boards and e-mail, computer

assisted instruction, computer managed instruction, computer-mediated education and computer-based conferencing.

Synchronous communication is a kind of communication between teachers and students that takes place simultaneously. It uses technologies that facilitate live interactive instruction. Examples of synchronous communications include audio conferencing, real-time computer communications and video conferencing. Synchronous communication technologies, such as desktop video teleconferencing and interactive group video teleconferencing, enable live, real-time interaction between participants of the educational process. The main benefit of synchronous learning is that it enables students to avoid feelings of isolation since they are in communication with others throughout the learning process. However, synchronous learning is not as flexible in terms of time.

Some authors argue that distance learning has a number of drawbacks: lack of prompt feedback, ambiguous instructions on the Internet, technical problems, difficulties related to student's academic progress control. Besides, teacher and students must possess technological skills and experience. At the same time, it is important to realize that it is not the technology and state-of-the-art equipment that teach students, but good and effective teachers.

Distance learning continues to grow, offering new programs that meet the needs of today's students and providing them with access to the information and skills needed to achieve their career goals.

REFERENCES

1. E-learning concepts, trends, applications, 2014. Available at: https://www.talentlms.com/wp-content/uploads/2018/09/elearning-101-concept-trends-applications.pdf (Accessed 7 April 2019).

2. The Evolution of E-Learning and New Trends, 2016. Available at: https://core.ac.uk/download/pdf/35343979.pdf (Accessed 8 April 2019).

3. E-Learning Benefits and Applications, 2016. Available at: https://www.theseus.fi/bitstream/handle/10024/105103/Guragain_Nischal.pdf?sequence=1&isAllowed=y (Accessed 8 April 2019).

4. Dimensions of Innovations in Education, 2015. Available at: https://books.google.by/books?id=_ZgTBwAAQBAJ&printsec=frontcover&hl=ru#v=onepage&q&f=false (Accessed 9 April 2019).

5. Distance education in European higher education - the offer, 2014. Available at: https://static1.squarespace.com/static/5b99664675f9eea7a3ecee82/t/5c7e4b2b4192028d9b5d88fc/1551780658702/ideal_report_final.pdf (Accessed 9 April 2019).