

EDUCATIONAL TECHNOLOGY IN TEACHING

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Abstract

Today, more than ever, the role of educational technology in teaching is of great importance because of the use of information and communication technologies. With the help of various applications for distance education, the Internet, teachers, and students themselves, they see the advantage of educational technology. The question is whether schools and teachers themselves are ready for the use of technology in education and whether they are aware of its benefits? In this paper, I try to give an overview of the importance and use of educational technology in the classroom.

Keywords: *Educational technology, Technology and learning, School, Teachers, The impact of technology on learning.*



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Introduction

Educational technology is a systematic and organized process of applying modern technology to improve the quality of education (efficiency, optimal, true, etc.). It is a systematic way of conceptualizing the execution and evaluation of the educational process, i. e. learning and teaching and help with the application of modern educational teaching techniques. It includes instructional materials, methods and organization of work and relationships, i.e. the behavior of all participants in the educational process. The term “teaching resources” is commonly used, although they are not synonymous (Pedagoški leksikon, 1996). The word technology is derived from the Greek word “techno” which means the willingness, skills, knowledge of the way, rule, skill, tools and “logos” which means science, word, learning, mental state. There is no single term for educational technology. Different countries use different terms and synonyms as educational technology, educational equipment, AV resources, the technology of teaching...

Terminological differences mostly occur on the grounds of the approach to the technical characteristics and the use of modern appliances, and not their actual application in teaching i.e. their actual pedagogical application. For this reason, there are different opinions among teachers in the field of social and technical sciences. Therefore, the application of educational technology requires knowledge from several areas: pedagogy, psychology, didactics,

computer sciences, informatics... Because of this diversity, there are also different perceptions of educational technology, where every author defines the concept of educational technology, according to their needs. Educational technology is still not being applied sufficiently, mostly for reasons of lack of school equipment necessary resources and insufficient qualification of teachers for the implementation of these funds. Educational technology has three domains of use: Educational technology has three domains of use:

- Technology as a tutor (computer gives instructions and guides the user),
- Technology as a teaching tool and
- Technology as a learning tool.

A number of authors (Clements and Sarama, 2003; Glaubke 2007; Dynarski et al. 2007) suggest that we should focus on five areas of software programs that have the potential to strongly influence children's learning experience:

- The educational value of the program,
- Its ability to engage children in learning,
- Ease of use,
- Interactivity between the child and programs,
- The possibility that a software program monitors the progress of the child.
- Without unpleasant feeling of their ignorance, no frustration, and humiliation while for the most advanced children teaching will be boring.

The fast-paced development of technology is seen in every field and it eases our lives. It is a must to integrate developments in information and communication technology with educational programmes to keep abreast of contemporary education level. In today's changing and developing world, individuals are not expected to obtain knowledge from a sole source but they are encouraged to find ways to reach knowledge, use it when problems are encountered and create solutions by using information.

The importance of Educational Technology in Teaching

Since computers are still not widely used in many schools, the teaching process is dominated by traditional methods form of work where the teacher had enough interaction with students. Failure to thrive at their own pace and insufficient activity of students was one of the drawbacks of this type of learning. In class, we have children who are not uniform in knowledge and never pay enough attention to those who are not sufficiently mastered the

material and those who are above their average. This difference is often hampered by teacher assessment work and how to transfer knowledge to a group of children with different knowledge. The teacher chooses to keep average to good teaching where children with insufficient knowledge would not get the necessary knowledge. The children with insufficient knowledge can progress smoothly without unpleasant feeling of their ignorance, no-frustration, and humiliation while for the most advanced children teaching will be boring. With the advent of educational technology in the classroom teacher, education is faced with the challenge that teachers integrate educational technology in their daily work. Numerous studies have shown that a small number of teachers is willing to integrate educational technology in their teaching activities (Becker, 2000; Hermans et al., 2008; Stošić and Stošić 2013; Wang et al., 2004). The reason is that there are two categories of teachers in the understanding of educational technology. Some of them have thorough understanding of modern technical appliances and their operation while others think it is necessary for them to gain additional technical knowledge of the appliances and methods, teaching methods, student-teacher relationship... These two groups represent a group of teachers between older and younger teachers. Older teachers during their study did not have the possibility of training with modern technical appliances, did not have the information technology, educational technology, while the younger generation of teachers possess the knowledge required for the use of educational technology. For a better understanding of educational technology requires a set of computer science, pedagogy, psychology, cybernetics, informatics. The knowledge teachers possess is sufficient for a basic use of education technology. However, educational technology is one big system. First of all, teachers have a basic knowledge of the use of educational technology. It takes far more professional training through a variety of conferences, courses, professional literature, seminars... in order to get a better knowledge in the use of educational technology. The fact is that under use of educational technology, primarily due to poor school equipment necessary resources, insufficient information and knowledge of teachers and the lack of interest and lack of motivation of teachers to use them. Teachers have to be motivated to use the same because the use of educational technology in teaching provides better interaction with students, better reception of information because the students receive knowledge visual, auditory and kinesthetic way. Among other things, an educational technology motivates students to work

independently where the student is more motivated to return to learning and working because modern technical equipment is widely available at any given moment.

The use of teaching materials prepared according to principles of technology of teaching is of vital importance to make individuals gain these qualifications and to make teachers design effectual and interactive teaching environments (Şahin & Yıldırım, 1999). The use of material in education plays important role to make students reach their targets more easily and make programmes be more successful by presenting effective environment for education. This is of great importance for effectual education. Because the element that helps student be qualified during education process is educational programmes. Especially, the use of material during education process is very significant for the success of the educational programmes of technology. “The use of material in education makes perception and learning easier. It arouses interest and brings liveliness to classroom. It shortens learning time. It helps permanence of the knowledge learned by students. It also makes students participate in topics and sparks reading and research. It carries events, facts and creatures with their real aspects to the class”.

During process of teaching-learning technology, the selection and preparing of visual material are as important as the use of it .

Concordantly, visual materials should:

- Be chosen in accordance with the targets and behaviours of the lesson,
- Give students chance for exercise and practice,
- Reflect real life by providing up-to-date information and data,
- Make topics concretize and line up from easy to difficult,
- Be designed according to the development features of students,
- Be used to emphasize the important points of topics

One of the technologies used effectively in educational systems is computer-aided education (CAE). According to the studies carried out in this field, computer-aided education (CAE) is more successful than traditional method. It was seen that computer-aided education (CAE) not only increases success but also helps high-level thinking of the students develop, accordingly, students learn better by comprehending rather than memorizing .Therefore, it is important to educate students who make use of technology when carrying out activities. Because of this, the plans and programmes of educational establishment should be worked out and revised.

The use of Technology and its Importance in Education

When technology is thought, state-of-the-art products that consist of high-quality information and technique come to mind. In other words, technology is associated with devices that have many useful properties. Technology is the application of the scientific principles and innovations to solve problems. Technology is an application of science. Computers, satellites and robots are regarded as devices that have emerged to solve problems as a result of the application of science.

Thanks to huge profits earned by producing high-technology commodities based on scientific and technical knowledge, industry has very big financial power to conduct new research and effort which create technical knowledge. Scientific knowledge is used to develop technology and new technology contributes to new innovations. Scientific knowledge and technology contribute to each other inter changeably. It has been a widely-known fact that each teaching method which is applied by educators has positive and negative aspects. The most important thing is that techniques must be chosen in accordance with the topics that will be taught so that better result can be obtained. Recently, it has been possible to have educational programmes that are rich in visual properties and share them with students with the help of computer technology. The most loved educational device by students has been computers so internet and computer-aided education are the most useful educational tools that can be employed in education.

The use of Technology and its Effects on Educational Establishments

The effects of technological developments on educational establishments have been different in relation to qualifications of these establishments. First, differentiation in the content of teaching and in the methods of direct teaching emerges by the use of technology products in education. Obligatory changes in teaching methods also affect the contents of programmes in teacher training schools.

For the school administrations, it is necessary to know the new opportunities of technology products and also legal problems emerged owing to the use of them. New contents such as internet crimes, ethic principles, patent rights, using a trade mark, violation of laws on the net, laws on national and local use of technology arise when educating school administrators . Another result of developments in communication and information technology is that various teaching fields, programmes and departments in higher educational establishments which study the use of technology have been started. This is an important effect of the use of

technology in education. Universities spend lots of money on internet infrastructures, online libraries, online subscribed database, electronic publications, subscription fees. Additionally, higher educational establishments are obliged to provide academic staff with computers, scanners, printers, software, projection devices etc. which are expensive items. Providing academics with these modern and technological devices is an important criterion for Universities. It can be seen that there have been efforts to build cooperation between industry and university. Universities have increasingly been commercialized to contribute to the production of technological devices and to make money. It has been stated that developments and running of universities have been affected seriously by technology. Among the developments and innovations are effectiveness in educational service, shortening time taken to prepare programmes, arranging programmes, presentation, evaluation, outsourcing, increase in the number of people, firms, partners in the service, new university models, virtual universities etc. Another important issue is that academics are sensitive to the principles and rules determined for using computers and internet. Admittance, objection, approval of academic staff are of great importance to use technology in universities. As technology develops fast, the need for it also increases. As a result of the spread of the use of technology in education, it has been a must to determine the attitudes, trends, ideas of students related to technological devices.

Conclusion and Suggestions

The presence of educational technology is growing in the classroom. The new generation of kids come ready to work with these new technologies, which play an important role in children's learning and acquiring various cognitive knowledge so that educational technology must be incorporated into future curricula. The application of educational technology enhances skills and cognitive characteristics. With the help of new technology comes an explosion of learning and receiving new information, especially on mobile devices.

Teachers have been using new technologies in the classroom. However, the development and application of new technologies grows as a measure that is the question of whether teachers are trained to keep up with them. Here we have two problems. Are the teachers have the ability to use educational technology and whether the school is sufficiently equipped with all modern technical means? Numerous studies were carried out, some are still ongoing, but we have to find the right strategies to apply educational technology in teaching.

It is known that technological devices used in educational establishments are not adequate in numbers as desired, mainly computers and internet access. However, the issue is not only shortage of hardware or software materials. Teachers should be trained to make use of these devices and to solve any problems related to the use of them. And also, students' good knowledge of computer and internet skills opens new dimension in their relations with administrators and teachers at school. Increase in investments which will enable the use of technological products more should not be sole target. It should be in accordance with the efforts to realize the targets set for the educational system by society. Otherwise, to support only technology-centred development without taking any variable into consideration could cause more problems instead of solving the existing ones. The use of technology in education, computers and related hardware and software, internet network, packaged software, user statistics should not be evaluated as quality variable alone. Instead, contents of programmes and arrangements should be stressed.

One of the benefits technology provides is that educational programs based on memorizing is given up and preparing programmes based on principles of active learning is adopted. The aim of contemporary and modern education is to train people who are creative, qualified and who produce knowledge. Therefore, teachers should make effort to reach this aim. Importance should be attached to the developing the contents of curriculums and modernizing the programmes of technology education to keep abreast of technological developments and educate individuals who are technology literate. The following points should be of first priority:

- Updating the programmes of technology education in primary and secondary schools,
- The use of new educational technologies and electronic online environment,
- Increasing the number of computers in schools,
- Training teachers who have up-to-date information and attaching importance to in-service training,
- Stressing internship practice,
- Modernizing the equipment in labs,
- Better foreign language education (especially English),
- Increasing the number of departments of technology education in universities,
- Attaching importance to the applied lessons where students of teacher training schools can acquire skills and knowledge for using technological tools,

- Organizing in-service trainings for teachers to keep in touch with the latest technological developments in education and effective use of technological tools and devices with the help of qualified academic staff from departments of computer technologies education,
- Encouraging faculties related to technology education to be member of the international organizations for technology education such as WOCATE (World Council Of Associations For Technology Education),
- ITEA (International Technology Education Association) and to cooperate with them,
- Holding international conferences on technology education,
- Benefitting from international student exchange programmes,
- Cooperation with the national firms that encourage technology to direct technology education for the needs of the country and preparing and arranging educational programmes within this frame.
- Technology education lessons should be obligatory in primary schools.
- Independent technology education lessons that follow each other should be included in the curriculums of primary, secondary and higher educational establishments.

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