Progress in Education Technologies:
Innovations and Development Between 1980-2013

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ABSTRACT

The revolutions in the communication and information technologies in the 21st century have led to tremendous innovations in education technologies. From the advances in education technologies, all education programs, such as traditional education, open education, distance education, e-learning, massive open online courses, adult education and lifelong learning, are being positively influenced in our day, as a consequence of the digital revolution, education is in a process of rapid transformation. In this chapter; first the development of education technologies in the historical process has been examined, as divided into periods. In the second step, the structural characteristics of the development in education technologies have been defined. Third, the innovations and developments in education technologies during the 1980-2013 periods have been examined by grouping under the education media titles. Fourth, the contributions of the communication and information technologies to education have been defined. And finally, the impacts of the revolution in the education technologies on economic development have been interpreted.

Keywords: Culture, Economic Development, Educational Technology, Innovation, Technology

INTRODUCTION

Learning and teaching has emerged through the curiosity of man. Mankind, faced with the urge to learn, has always tried to find answers to the questions of what, where and how he will learn. Mankind, learning what he wants to learn through the support of other humans and objects, while teaching what he has learned to the others, has found out that it is not enough for only him to give the information, but that other elements are also required. Men always need other elements, supporting sources and tools-equipment that they use to make what they want to learn or teach more efficiently. In a lasting learning or teaching process, technology is also present all the time.

Technology has always been present in the education and teaching processes, and is an indispensable part of education and teaching today. In the learning-teaching processes, accessing information using technology, selection and analysis of information, and the organization of the information sources are significant skills that must be acquired.

Teaching technology is the process of structuring the teaching and learning processes. This process includes the design, application, evaluation and improvement of teaching and learning. Education technology is a complex and integrated process that includes people, methods, opinions, tools-equipment and organization in the analysis and solution of problems related to learning and teaching.

In this chapter, the education technologies concept, its development in the historical process and the structural characteristics of today's technologies has been investigated. Then, the education technologies during 1980-2013, have been examined through the education media and their contributions to education have been explained. And finally, the impacts of the revolution in the education technologies on economic development have been interpreted.

BACKGROUND

Education Technology Concepts

It is necessary to briefly explain the education, education technology and instructional technology concepts that will be frequently used in this chapter. These are concepts that we commonly encounter in this area and generally use without paying attention to their meanings.

Education is the event of a human being's individual personality formation, socialization and acquisition of economic effectiveness. Education is the process of achieving balances in cognitive-affective-kinetic dimensions through mutual interactivity in the man-environment atmosphere. In other words, education is the process of forming a unique personality, a happy, successful, healthy and reliable life product by passing through the stages of education communication, learning attitude formation, achieving operability of skills, opinion and idea generation, technology formation and implementation (Alkan, 1997).

The Association for Education Communication and Technology (AECT) has defined the education technology in detail in 1977 (Saettler, 2005):

Educational technology is a complex, integrated process involving people, procedures, ideas, devices, and organizations, for analyzing problems, and devising, implementing, evaluating and managing solutions to those problems, involved in all aspects of human learning. In educational technology, the solutions to problems take the form of all the Learning Resources that are designed and/or selected as Messages, People, Materials, Devices, Techniques and Settings. The processes for analyzing problems and devising, implementing and evaluating solutions are identified by the Educational Development Functions of Research-Theory, Design, Production, Evaluating-Selection, Logistics and Utilization. The processes of directing or coordinating one or more of these functions are identified by the educational management functions or organization management and personnel management.

In the book, which has been sponsored by the Association for Education Communication and Technology (AECT) in 2010, a brief and compact definition of education technology is provided (Januszewski & Moleda, 2010):

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources.

Instructional technology is made up of 'things of learning', the devices and the materials which are used in the processes of learning and teaching (Anglin, 1995). Instructional technology is a systematic approach to the design, implementation and evaluation of teaching and learning processes in the accomplishment of specific objectives, and ensuring effective learning.

Alan Januszewski and Michael Moleda, in their 2010 publication, have expressed the education technology and instructional technology concepts as follows:

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