

Chapter 6

Technology Adoption and Educational Change in Turkey

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ABSTRACT

The purpose of this research was to examine technology adoption and the educational change process. This paper found eight factors essential to technology adoption in countries that are heavily centralized and strongly affected by external forces (globalism etc.). These factors are communication, expertise capacity, minimal bureaucracy, continuous research, individual change and organizational change, peer schools, accountability, transparency, and owning the change: commitment.

INTRODUCTION

Technology has a tremendous impact on every aspect of our lives and is an accepted part of our daily lives. In education, technology increases the options and opportunities for teaching and learning practices. Today many people agree that technology should be used in education and further, at this point in time, we can say that technology will stay in schools. Many countries have

already included the integration of technology into education in their agenda for educational development. It is important to mention that the success of this integration depends mostly on the teachers. Teachers need to use technology effectively in classrooms. Technology in education offers many potential benefits. Its adoption is a major challenge for many countries (Khasawneh, 2009; Emmanouilidis & Economides, 2010; Topacan, Basoglu, & Daim, 2010).

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In Turkey, the implementation of educational technologies is the central focus right now, like in many other countries in the World. Technological reforms are currently underway to integrate technology. In the “Long Term Strategy and 8th Five Year Development Plan 2001-2005” of the Turkish State Planning Organization (2001), the importance of the use of new technologies in all areas of education, but especially in elementary education was strongly expressed by saying “initiating computerized education at all levels of education with a special emphasis on primary education, providing internet access for every school and producing curriculum as software programs bear great importance” (p. 88).

The National Ministry of Education (MONE) has already initiated many projects to implement technology in schools. Large amounts of money were spent and are continuing to be spent for the purchase of hardware and software. One of the programs to implement technology was The Basic Education Program (BEP). Turkey, with the help of the World Bank made an enormous investment in bringing educational technology into classrooms. The BEP loan agreement was signed between the International Bank of Reconstruction and Development (World Bank) and the Turkish Government in 1998. The project components included the improvement of the quality in basic education, through not only improving continued investments for school equipment including installation and utilization of information and communications technology (ICT) classrooms, but also supporting in-service training in ICT for teachers to improve basic technology skills, and assist in utilizing ICT to improve instruction (World Bank, 2002). The program consists of two phases. The first phase of the program focused on establishing ICT classrooms. The initial credit of U.S. \$300 million has been used by the Ministry of National Education to set up ICT classrooms in 2,802 schools. Phase two started in 2002 with another \$300 million loan. The second phase of

the program supports a continuation and extension of the activities supported under the first phase of the program. This project was financed by the World Bank and the Ministry of National Education (MONE) and MONE was responsible for implementing this program.

Technology Adoption and Change

Studies reported that elementary school teachers believe that technology offers many benefits. Guha (2003), for instance, reported that all of the elementary school teachers who participated in her research acknowledged the importance of technology in students’ learning process, and further, teachers agreed that technology could help them achieve key instructional goals. Based on the findings from 174 case studies of technology use from 28 countries, Kozma (2003) concluded that teachers in many countries are starting to use technology to help change classroom teaching and learning. It seems that educational technologies have entered the classrooms in many countries; however, studies showed that teachers are not fully incorporating technology into their teaching practices. Perhaps that is the reason that some studies documented little effect or even a negative effect of technology in education. For instance, Pelgrum and Plomp (2002) compared 41 countries in terms of technology and mathematics education. They concluded that students who used technology “frequently for mathematics learning had much lower achievement scores than students who hardly used or did not use” technology (p. 327).

Likewise, in the U.S., Cuban (2001) examined computer use in Silicon Valley schools. He looked into the preschools, kindergartens and secondary schools. He stated that “in the schools we studied, we found no clear and substantial evidence of students increasing their academic achievement as a result of using information technologies,” (p. 133) even though “students and teachers had access to computers and related technologies available in

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