

Chapter 6

Teachers' Use of Assistive Technologies in Education

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ABSTRACT

Today's educational landscape is complex and ever-changing. Technology continues to develop and advance the quality and scope of instructional methods being utilized across educational settings. At the same time, inclusive education, where persons with disabilities are included into general education classrooms, has become a world-wide initiative. Yet access of students with a disability to assistive technologies, which constitute equipment, devices, or software used to increase, maintain, or improve their capabilities, is limited. Limited student access is due in part to both limited teacher knowledge of and access to such assistive technologies. Even in the business education curriculum where technology courses are offered, teachers are not using potentially helpful technologies for students with a disability who are included in their classrooms. To that end, this chapter reports on business educators' knowledge, use, training and preparation related to teaching students with a disability. Findings indicated additional education in the availability and use of technology and assistive technology are needed.

INTRODUCTION

Integration of technology into K-12 education is a global trend. The last several decades have seen greater emphasis on incorporating hardware and software technologies into the K-12 educational systems world-wide. For instance, successive British governments have promoted information and computer technology (ICT) in schools (Hurd, 2009). Since the 1970s, initiatives have taken place in England to proactively introduce technology into classrooms (Hammond, 2014). Underlying these initiatives was the belief that the integration of technology can cause educational reform, increase achievement, and promote the teaching of relevant content and skills through hands-on instruction. In addition, an initiative in Italy in the late 1990s introduced ICT equipment, accompanied by teacher professional development, into all

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schools (Fichera & Ronchi, 2004). Further, the majority of Slovak schools gained access to computers and the internet in the early 2000s (Fančovičová & Prokop, 2008). The Jordan government has also allotted funds to integrate new technologies into Jordanian schools, and research findings suggested that even greater emphasis should be placed on the integration of computer technologies into education in that country (Al-Zaidiyeen, Mei, & Fook, 2010). In Hong Kong, technology education was implemented as a key learning area, incorporating instruction in the areas of business education, technology, and computer education (Volk, 2003). Across the globe, the integration of computer hardware and software has been an educational priority.

In North America, trends were similar. In the United States, the accelerated integration of technology into K-12 education across the content areas has been supported or mandated by professional organizations, state education agencies, and the federal government (Redmann & Kotrlik, 2004). However, the transition towards technology-integrated K-12 education was not without barriers, including cost, lack of training and professional development opportunities for teachers, the need to redesign the curriculum, and the need for continued funding to upgrade and repair equipment (Bashman, Palla & Pianfetti, 2005; Redmann & Kotrlik, 2004; Volk, 2003).

While initially the focus of the movement towards technology was on introducing hardware and software into the schools, the emphasis began to change to the integration of technology into lessons to improve student learning (Redmann & Kotrlik, 2004). To that end, in order to promote best practice when integrating technology into educational systems, the International Society for Technology in Education (ISTE) worked in conjunction with educators from around the world to develop the National Educational Technology Standards (NETS), which are a set of standards for “learning, teaching, and leading in the digital age, and are widely recognized and adopted worldwide” (ISTE, 2007). The NETS for students (NETS-S) provide standards that address the knowledge and skills that students need to know in a technology-enhanced world, while the NETS for teachers (NETS-T) provide standards and performance indicators for teachers as they incorporate technology across the curriculum. The NETS-T standards encourage the use of appropriate digital tools to address the diverse needs of all learners in the K-12 environment. The incorporation of standards was a positive step towards the integration of technology into classrooms.

INCLUSION OF STUDENTS WITH DISABILITIES INTO GENERAL EDUCATION CLASSROOMS

As the push for integration of technologies into educational systems world-wide has amplified, another growing global educational trend in K-12 education has been the inclusion of students with a disability into the general education classroom. Approximately 15% of people in the world have some type of disability, and between 2 and 4% percent have severe disabilities (World Health Organization, 2011). These numbers translate into a large number of students with a disability in the education system world-wide. For example, in the United States, more than 6 million school age students are identified as having a disability (U.S. Department of Education, 2012a). In conjunction with these statistics, high percentages of general education teachers (74%) report teaching students with a disability in their classrooms (Olson, 2004).

Inclusion, or the practice of including students with a disability into the general education classroom, is prevalent across the globe. In Korea, the Special Education Promotion Act has mandated free public education for children with disabilities since 1977 (Hwang & Evans, 2011). In that country, special

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