Chapter 4
Technology Impact on K–12 Education

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ABSTRACT

Technology can be a leveraging tool that allows learning experiences to be reimagined to allow the creation of meaningful connections between acquiring a base of knowledge and making meaningful connections to peers and mentors in our daily lives and global workforce. Therefore, it is important to consider and explore methods for integrating technological tools and resources into school environments so that technology in the classroom can continue to expand from information gathering to include product creation and collaboration for all students. Therefore, this chapter will focus on the following: 1) learning and technology integration frameworks, 2) technology-enabled learning in action, and 3) overcoming obstacles for technology integration.

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INTRODUCTION

Technology impacts virtually every aspect of our daily lives and work and must be leveraged into education environments to provide for engaging and powerful learning experiences as well as meaningful ways of assessing student achievement. Assessment data from both technology-based learning experiences and assessment systems are pivotal for continuous improvement of education systems at all levels (U.S. Department of Education Office of Educational Technology, 2010). Technology integration into schools as a means of improving practice involves various stakeholders including teachers, students, parents, administrators, trainers, developers, technicians, and associations. Even though teachers primarily determine how technology is utilized in classrooms, it is important that stakeholders understand issues and teachers’ needs as they explore new ways to integrate technology into practice (Strickland, 2003).

Technology utilization in classroom curriculum is influenced most by teachers’ ability to navigate and effectively integrate it into the curriculum (Ashmeade, 2017). Ashmeade (2017) reports that teachers affirmed that technology encompasses all parts of students’ lives and has a crucial role in students’ academic success. Students must master crucial skills including appropriate use during elementary years in order to be successful in upper grades and beyond. Therefore, technology plays an integral role in the classroom, and proper professional development based on personal needs is required.

More specifically, “Technology has allowed us to rethink the design of physical learning spaces to accommodate new and expanded relationships among learners, teachers, peers, and mentors” (U.S. Department of Education Office of Educational Technology, 2017, pp. 9). Historically, learning opportunities were limited by the resources available within the walls of a school; but now high-speed internet access, equitable opportunities to explore and access online technology tools, high-quality learning materials and content, world-wide expertise, and specialized learning communities of practice are available to all students. Technology can be a leveraging tool that allows learning experiences to be reimagined to allow the creation of meaningful connections between acquiring a base of knowledge and making meaningful connections to peers and mentors in our daily lives and global workforce (U.S. Department of Education Office of Educational Technology, 2017). Therefore, it is important to consider and explore methods for integrating technological tools and resources into school environments so that technology in the classroom can continue to expand from information gathering to include product creation and collaboration for all students. Therefore, this chapter will focus on the following:
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