

Chapter 13

Enabling and Integrating Technology With Personalized Learning

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ABSTRACT

Personalized learning refers to a variety of instructional methods, academic support strategies, and educational programs that are proposed to address specific interests and learning needs of the students. The key goal of integrating technology with personalized learning is to have students progress from high school to college or a career. But currently, most of the students leave high school without the knowledge and technical skills that they need for success in further education and workplace. In order to improve K-12 education (i.e., kindergarten [K] and the 1st through the 12th grade) fundamental and systemic changes in middle and high school education are required. Integration of technology can help the students to improve knowledge, advance skills, and to gain the competencies to work well in the society and workforce. This chapter focuses on applicability of technology, implementation, and feasibility issues that play a key role in personalized learning.

INTRODUCTION

Personalized learning is all about instruction that offers pedagogy and learning environments to meet needs of each learner. In a personalized learning environment, the learning objectives, instructional content, and approaches may all vary depending on the individual student needs. It focuses on providing mastery of skills and knowledge necessary for students and career skills to all individuals. Personalized

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learning includes paying attention to the tools and resources that best suits to its successful adoption. Integrating personalized learning with technology offers a natural way to induce practical learning and also expands education beyond the traditional boundaries (Moeller & Reitzes, 2011).

Presently, in public schools, in spite of the availability of technology, it is not widely integrated into the learning experience. According to a survey of more than 1,000 school teachers and students conducted by CDW Government LLC (2010) that only a few teachers fully integrate technology into the classroom. Most of the students feel unprepared to use technology when they look ahead to higher education or professional development. Digital technology is customizable and motivates the students to expand their learning experience (Christensen, Horn, & Johnson, 2008). To date, digital education has focused mainly on higher education and professional development only, yet this innovative approach improves K-12 education (i.e. kindergarten (K) and the 1st through the 12th grade) also by tailoring instruction to each student's individual preferences, learning skills and specific interests. The technology helps teachers to assess individual student's needs and strengths, enhances students' skills and knowledge that is essential for professional development in the globally competitive world. This tends to help students to individually organize their learning process and also aim for student centered learning instead of teacher centered learning (Moeller & Reitzes, 2011; Christensen, Horn, & Johnson, 2008).

Integrating technology with personalized learning is very complex and slow process. The most predominant barriers to successful integration are to obtain support from organizations for the use of technology, teacher's attitudes, lack of confidence in technology and their technical skills itself as a challenge. Other challenges could be poverty, resource shortages, and student adaptation to a new learning environment.

Investment in digital learning is helping to revamp the teaching and learning process for the students and induce ability to use powerful tools. Willingness to embrace change is a major requirement for successful integration of technology. Technology is an ongoing process and continual learning is necessary, as it is rapidly evolving (Cuban, 2001; Zhao & Frank, 2003). Schools must be encouraged to use such tools to support improvement in digital education and teaching. Strategies need to be designed to address challenges faced by learners and educators. In a report generated by Digital Education Advisory Group (2012), the key recommendations for improving digital education are to invest in digital education and spread the change in the experience and education for many students, usage of smart devices and move to a 'bring your own device' environment to enhance learning. The pedagogy should drive innovation in digital education, create a new learning environment which requires a systematic approach including building teacher capacity, improving their technical skills and follow new curriculum design.

Strong organization support will be needed to implement this new environment in schools and to increase teacher capacity. Before technology based instructional practices are successful in reducing performance gaps, a deeper analysis of different student subgroup outcomes needs to be done. Such environment should be utilized to enhance student centered learning, risk and reward sharing by public-private partnerships in the education system by combining formal and informal learning for the success of digital education. If a significant level of change in schools is required, then it is best supported in short term by changing the existing curricula.

This chapter focuses on elements of digital technology, its characteristics, applicability, implementation and feasibility issues that play a significant role in student centered learning. The digital education will function very differently from the formal learning. Along with classroom teaching, teachers are expected to implement innovative ways of teaching that would improve digitally enabled education.

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