Chapter 107

Mobile Technology and Differentiated Learning:
Meeting the Needs of Students with Significant Disabilities

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ABSTRACT

As the world falls in love with the iPad and other touch screen tablet technologies, no one is more excited by the possibilities than those of us who teach students with significant disabilities. The mobile tablet's intuitive interface, variety of accessibility options, and almost limitless possibilities for individualized intervention make this technology a true game-changer for children and adults with special needs. This chapter explores the landscape of tablet use to increase the education, communication, and independence of students with moderate to severe disabilities. Current research on effective teaching and learning practice that can best be employed through mobile touch screen technologies is presented.

INTRODUCTION

With the advent of the touch-screen tablet comes unchartered waters and unprecedented possibilities for learners with significant disabilities. Assistive technologies in general are essential life enhancements to persons with disabilities, but the touch screen tablet breaks barriers previously thought impenetrable. Why? How? This chapter begins by exploring the touch screen tablet within the definition of assistive technology and the realm of Universal Design for Learning, and then examines specific reasons why these devices can make such an impact on student learning. Current research is presented and opportunities for future study are discussed.

BACKGROUND

Assistive Technology

In today's classroom, teachers face daily challenges in educating an increasingly diverse population that typically includes students with mild, moderate and even severe disabilities. Mandated in the United States by the Individuals with Disabilities Education Act (IDEA), Assistive Technology (AT) offers students with disabilities support to participate in the educational program with the goal of parity with other students, disabled or not. All students eligible for special education are entitled to the consideration of AT devices and services in the development, review and revision of their Individualized Education Plan (IEP). The IEP provides an accurate account of a student's present level of academic achievement and functional performance, as well as a platform in which annual goals are set. IEP teams including the student's parents, special and general education teachers, and support personnel are required to consider AT with respect to meeting a student's annual goals. It is anticipated that AT can help individuals with disabilities to access the general curriculum by serving as a cognitive or physical prosthesis attempting to mitigate the impairment (Cavalier, Ferretti, & Okolo, 1994).

Public Law 100-407, the Technical Assistance to the States Act, defines AT as any item, piece of equipment or product system, which is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. Through the years, this definition has been included in key legislation assuring equal physical and intellectual access for individuals with disabilities. One such mandate, Section 508 of the Rehabilitation Act Amendments of 1998, emphasized for the first time the importance of making electronic and information technology accessible. Individuals with disabilities use AT in order to perform functions that might otherwise be difficult or impossible. AT can provide the means necessary for students to obtain, express and organize information, and can include mobility devices such as walkers and wheelchairs, as well as hardware and software that assist people with disabilities in accessing computers or other information technologies. The iPad, along with other tablet based computing devices, has the potential to change the lives of students with disabilities by allowing them the opportunity to communicate, access vital information, and facilitate the routine of daily life. When utilized to accomplish these tasks, touch screen technologies can be considered AT, and can thus be written into students' IEPs.

Opportunities to engage students' learning through technology are growing and the infusion of AT into classroom instruction capitalizes on ways to customize students' learning experiences. Understanding the potential role of technology for students with disabilities is critical, as is choosing the appropriate AT for each student. Examples of this requisite knowledge and application thereof are plentiful. For instance, activating the text-to-speech features in a word processor can help a student "hear" errors of grammar and spelling within their writing. Using video clips to present lesson content can assist a student who is more successful when engaged by video versus print. Supported reading software programs can provide digital enhancements that visually cue text, scaffold passages, and read the text aloud for a struggling student. These interventions that once required multiple devices, or at least a computer with expensive software, can now be provided through a single touchscreen tablet interface.

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