Chapter 11
Technology for Young Children with Special Needs

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ABSTRACT

Children come to early childhood programs with a wide range of learning abilities, languages, cultural backgrounds, and educational experiences. Most classrooms also include children with special needs or exceptional children, who differ from these typically developing children to such a degree that an individualized program of adapted, specialized education is required to meet their needs (Heward, 2009). This chapter provides a framework for the use of technology to assist these exceptional children in early childhood and primary level classrooms.

INTRODUCTION: EARLY INTERVENTION AND SPECIAL EDUCATION SERVICES FOR CHILDREN WITH DISABILITIES

In 1975 a landmark law, The Individuals with Disabilities Education Act (IDEA), was passed that provides for special education services in the United States. IDEA has been amended and reauthorized multiple times, most recently in 2004, and is the primary federal law that guides special education services for children through six principles: (a) *Zero Reject*, refers to the principle that schools must educate all students with disabilities regardless of the nature or severity of the disability and that no child may be excluded from a public education; (b) *Nondiscriminatory Identification and Evaluation*, refers to non-biased, multi-factored methods of evaluation that must be used to determine a disability and if so, whether special education services are warranted; (c) *Least Restrictive Environment* (LRE) refers to the principle that to the maximum extent appropriate, children with disabilities are educated

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with children who do not have disabilities; (d) *Due Process*, means that safeguards are mandated and procedures are in place to protect the rights of children with disabilities and their parents; (e) *Parent Participation and Shared Decision Making,* refers to the principle that schools and local education agencies must collaborate with parents of students with disabilities when designing and implementing services, particularly with placement, goals and objectives, and related services; (f) *Free, Appropriate Public Education*, (FAPE) refers to the principle that all children with disabilities must be provided an appropriate education, outlined in an individualized family service plan for children ages birth to two years old or an individualized education program (IEP) for children ages 3 to 21, at public expense.

In early childhood programs the service provided to these exceptional young children is usually associated with *early intervention*. Early intervention refers to children of school age or younger who are discovered to have or be at risk of developing a handicapping condition or other special need that may affect their development. Approximately 3% of all children birth to three years old and 6% of all children ages 3 to 5 years old receive special education services in the United States (U.S. Department of Education, 2007). Disabilities that qualify for special education include physical disabilities, such as deafness or blindness; mental disabilities, such as Down's syndrome and autism; medical conditions, such as oxygen dependence or traumatic brain injury; learning deficits, such as dyslexia; and behavioral disorders, such as attention deficit hyperactivity disorder (ADHD) and conduct disorders.

Children who receive early intervention special education services are provided additional educational assistance for developmental delays such as speech and language delays, learning disabilities, intellectual disabilities like Down's Syndrome or Autism, and emotional and behavioral disorders. Regardless of a child's disability status, he or she is still expected to demonstrate progress towards attaining high levels of achievement according to the No Child Left Behind Act and IDEA.

Without the services mandated in IDEA, many children with disabilities would have difficulty accessing and participating in the instructional environment in public educational institutions. Particularly because curricular programs utilized in general education are intended for typically developing children and children with disabilities are not commonly considered in the research, development, and adoption process of curricular programs (Hitchcock & Stahl, 2003).

In order to accommodate for the specialized needs of children with disabilities the instructional environment must be adapted to include more accessible and research-based practices for children with disabilities and struggling learners. The challenge for early childhood teachers is to balance the current emphasis on higher standards and accountability with the requirements for special needs children in their classrooms. Technology is an advantageous tool that can provide a variety of resources allowing teachers to adapt the instructional environment for students with a wide range of learning abilities to maximize their progress toward achieving higher standards.

This chapter will approach the use of technology in early childhood programs through three types of applications: adaptation of existing computers and other technology (adapt); computer software programs to address particular skill deficits (address); and specialized technology used to assist the functioning of a child with disabilities (assist). To help users identify and integrate technology to support children with special needs we frame the use of technology in terms of *adapt*, *assist* and *address.*

Objectives

After reading this chapter the reader should be able to better understand the laws in the United States in regards to the education of young children with disabilities. They will learn about the support and