

Chapter 16

Evaluating Systemic Assistive Technology Needs

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ABSTRACT

This chapter will focus on the impact that teacher knowledge of and comfort with assistive technology has on the use of this technology by students with disabilities and how these factors are identified through conducting needs assessment-based research. This chapter begins with a discussion of what is assistive technology and the role it plays in the life of a person with a disability. This will include a discussion of the idea that the earlier AT is introduced to the individual, the more likely it will continue to be used and the larger effect it will have on the individual's future education, employment, and independent living needs. Also, this chapter will introduce the concept and application of needs assessment, as well as the benefits of conducting this type of research to improve the quality of AT services. This discussion will be supported by an initial discussion of results and experiences in conducting the Iowa Assistive Technology Needs Assessment focusing on the methods used and limitations encountered while conducting this project. Finally, recommendations for future AT-based research will be provided. By the end of this chapter, readers will understand the pressing issues in AT training for teachers, how to determine what is needed, and what is being done to improve overall AT knowledge and comfort.

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INTRODUCTION

Assistive Technology and Persons with Disabilities

The Individuals with Disabilities Education Act (IDEA) of 1990 and its amended version in 2004 represent a step forward in eliminating some of the learning barriers experienced by students with disabilities in the United States. This legislation, Public Law 94-142, mandates that eligible students with disabilities have access to the same public school education as students without disabilities. In order to facilitate this access, schools/school districts are required to provide reasonable accommodations designed to address the student's unique educational needs. One such accommodation is the use of *assistive technology* (AT). Although there is research that documents the role of AT in facilitating education, employment, and independent living outcomes of adults with disabilities, little attention has been paid to the identification of AT needs in the school system.

According to the Technology-Related Assistance for Individuals With Disabilities Act of 1988, an AT device is defined as any item, piece of equipment, or product system, whether acquired commercially or off the shelf, modified or customized, that increases, maintains, or improves functional capabilities of individuals with disabilities (ATA, 2000; Bryant & Bryant, 2003; Tech Act; Public Law 100-407). This definition emphasizes what it is, how it is made, and the intended use of the technology. Legal mandates such as the Rehabilitation Act Amendments, the Individuals with Disabilities Education Act, and the Americans with Disabilities Act support the provision of AT services to individuals with disabilities to address educational, employment, and independent living needs. Examples of AT devices vary widely and include but are not limited to low-tech items such as pencil grips, crutches, large print, and Braille; mid-tech devices such as tape recorders, talking calculators, and manual

wheelchairs; and high-tech devices such as power wheelchairs and computer applications such as scan and read, screen reader, or speech recognition programs.

Traditionally related to the professions of rehabilitation counseling and special education, AT is often associated with the provision of and access to computer and related technologies for individuals with disabilities. Literature suggests that the earlier AT is introduced, the more likely the individual will acquire skills needed to succeed in different environments (Judge, Floyd, & Jeffs, 2008). Also, AT has the potential to increase developmental skills and provide solutions to behavior, attention, and communication challenges faced by students with disabilities or considered at-risk in early childhood settings (Parette & Stoner, 2008). The role of AT in school as well as other settings (e.g., home, work, community, etc.) is to include and integrate persons with disabilities by facilitating the completion of required environmental tasks. Research suggests that AT is a valuable asset in promoting the employability of persons with disabilities (Gamble & Satcher, 2002). AT has been regarded as a factor that would facilitate employment placement and improve job tenure (Langton & Ramseur, 2001). Other researchers such as Mull and Sitlington (2003) discussed the ways in which AT can be used to address the needs of students with disabilities during their elementary and high school years and in transition to postsecondary education. The rationale being that if students with disabilities enter postsecondary education and obtain a degree, they may avoid entering into low pay entry jobs typically associated with this population (Estrada-Hernández, Wadsworth, Nietupski, Warth, & Winslow, 2008; Frank & Sitlington, 2000; Siegel & Gaylord-Ross, 2001). Yet, research that documents the needs and potential effects of AT on the wages earned by students with disabilities after high school completion are limited.

Often people with disabilities are limited in their abilities to exercise personal choice over

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