Chapter 10
Assistive Technology:
A Tool for Inclusion

Mary Spillane
Bellevue Public Schools, USA

ABSTRACT

Current federal legislation requires not only that students with disabilities be educated in the least restrictive setting but also that all students have equal access to a standards based curriculum. Providing this access can be a significant challenge for students who are unable to independently participate in traditional classroom activities. For these students, assistive technology supports may be the key to a successful general education placement. This chapter will discuss the process of designing and implementing assistive technology supports for a 2nd grade student with multiple physical, medical, and communication challenges.

INTRODUCTION

In 1975, the Education for All Handicapped Children Act opened the educational door to students with disabilities. As a result of that legislation, all children, regardless of ability, were guaranteed access to a free and appropriate public education (EAHCA, 1975). While this legislation opened the door to the school building, for many students, the door to general education classrooms remained tightly closed. Students with the most significant challenges were often placed in separate classrooms or buildings in an attempt to meet their unique educational needs.

Over the next thirty-five years, special education service delivery models continued to evolve. An initial focus on specialized instruction with "mainstreaming" gradually shifted to a focus on inclusive education (Zigmond, Kloo, & Volonino, 2009). Current legislative requirements address not only the right of a student to be educated in the least restrictive setting, but also the right of all

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students to have access to a standards based curriculum (Individuals with Disabilities Education Improvement Act, 2004; No Child Left Behind Act, 2001). Although IEP teams can determine that the general education curriculum is not appropriate for a specific student, it is expected that this will be the exception rather than the rule (Kohl, McLaughlin, & Nagle, 2006). While this legislation provides unprecedented educational opportunities for children with complex needs, it also poses a significant challenge to those charged with educating them.

BACKGROUND

In a typical general education classroom, instruction and assessment activities are interwoven throughout the school day. During instructional activities students may be asked to listen to a lecture, take notes, read a text, or search the internet for information. Formative and summative assessment activities may involve group projects, written responses, drawings, or participation in class discussions (Garrison & Ehringhaus, 1995). While some level of differentiation is usually present, it is rarely sufficient to meet the needs of students with complex motor and communication disabilities (Salend, 2009). For students who are unable to speak or hold a pencil, assistive technology is often the key to a successful general education placement.

Federal law defines assistive technology as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain, or improve the functional capabilities of a child with a disability." (IDEIA, 2004). Assistive technology serves two primary functions in the inclusive classroom. First, it can provide an alternative means of accessing general education curriculum materials. A student who is unable to read may be quite able to understand grade level concepts in social studies or science. Unfortunately, if those concepts are presented only through traditional text materials, the student may be denied an opportunity to learn material which he or she could have mastered. Since a well-designed curriculum builds upon previously learned concepts, students with complex needs can easily lose access to the building blocks necessary for future academic development.

The power of access to appropriate technology is illustrated in an example described by Erickson (as cited in Beukelman & Mirenda, 1992). In this situation, eight students ranging from 5-12 years of age were placed in a specialized classroom for the purpose of providing "intensive technology assistance." At the start of this program all students demonstrated multiple severe disabilities, were non-readers, and had not been exposed to any type of assistive technology supports. The initial goal of the program was to provide assistive technology supports which would allow the students to be placed in less restrictive, but still segregated classrooms. Within two years, seven of the eight students were not only proficient with their technology supports but also reading within 1-2 years of grade level. Two had been placed in general education classrooms as competitive students and the others were in the process of moving to more inclusive placements. Without assistive technology supports, it is likely that these students would have continued to be perceived as having severe cognitive deficits and unable to benefit from access to traditional curricular materials.

Assistive technology supports can also allow teachers to more accurately assess a student's mastery of the curriculum (Purcell & Grant, 2005). In the current climate of accountability, teachers are required to measure student progress using standards based assessments. In many cases, assessment questions and tasks are pre-determined and must be presented in a specified manner. Any deviation from this presentation must be documented and, in some cases, may cause the child to be scored at a beginning level of mastery regardless of performance. This presents a dilem-