

Chapter 9

Assistive Technology and Best Practices

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ABSTRACT

The purpose of this chapter is to provide knowledge for classroom teachers on the assistive technology tools that are available for students with learning disabilities. A secondary focus is to identify the best practices commonly used by classroom teachers when teaching students with disabilities. Various technology tools and best practices are discussed. A survey was distributed to elementary and secondary classroom teachers seeking input on the assistive technology tools and best practices used in the classroom. Further discussion of the assistive technology tools and best practices provide content for the practicing teacher to enhance his/her teaching skills when teaching students with learning disabilities.

INTRODUCTION

Students with learning disabilities now make up 5% of the total school population (Aronson, 2014). According to the National Institute of Health, 8 to 10 percent of American children under 18 years of age have some type of learning disability (Frank, 2014; Loonin, 2012; National Institute of Health, 2019). Additionally, the number of U.S. students enrolled in special education programs has risen 30 percent over the last ten years with three out of every four students with disabilities spending part or all of their school day in a general education classroom (Bakken, Obiakor, Rotatori, 2013; IDEA/Special Education, 2019). The Individuals with Disabilities Act (IDEA) requires that placement options be made available to students with disabilities (ASCD, 2001-2002).

One of the best examples of learning disabilities is provided by Loonin (2012, p. 6):

In 1937 Harry Sylvester walked into the small, three-story schoolhouse in his hometown in rural Maine for the first time. Sylvester loved being outdoors and working in the fields of his family farm. He could drive and operate a tractor by the age of ten and was skilled at repairing farm machinery. At school,

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however, he felt stupid. As hard as he tried, he could not recognize the letters in his first grade reader or match the pictures to the words on the page. Sylvester recalls:

It all seemed like pretty simple tasks, but for me, it just simply didn't work. I think my teacher saw me as being bright enough, and if I would only pay attention I'd be able to do the work like the other students. Her first strategy was that if I stayed in at recess long enough, I would give in and do the workbook. The truth of the matter was, I would have done the workbook the very first day, if I could have. I stayed in for week after week—I don't really remember how long – and listened to the other kids playing at recess and having a wonderful time. I took my pencil and went back and forth on my reading workbook, and eventually I cut a slot right through the darned thing.

Any student with a learning disability can relate to that story. However, Sylvester eventually became president of the Learning Disabilities Association of America (Loonin, 2012).

Assistive technology services were first introduced with the Technology-Related Assistance for Individuals with Disabilities Act of 1988. This act defined assistive technology and assistive technology services. Later, with the passage of the Individuals with Disabilities Education Act (IDEA) in 1990 school-age children with disabilities were included (De Witt, 1991; Parette, 1997). In addition to IDEA, the No Child Left Behind Act of 2001 required additional demands for classroom teachers by (a) requiring that children with disabilities be taught to the same standards as all children, and (b) holding schools accountable for student achievement (Stone, Parette, Watts, Wojcik, & Fogal, 2008).

Assistive technology tools can enhance the learning experiences of students with learning disabilities by providing software or hardware devices that make learning less challenging for some students. Educators are faced with the dilemma of what assistive technology tool to use and how to use it. Many educators do not have the knowledge and skills needed to utilize the assistive technology devices available nor are they aware of the needed tools and devices. While some assistive technology devices are available for the students, unless the classroom teacher is familiar with the device(s) the tool may not be used. Two questions are addressed in this chapter:

1. What assistive technology tools for students with learning disabilities are used by teachers?
2. What are the best practices using the assistive technology tools for students with learning disabilities?

While general knowledge of assistive technology tools is desirable, it is imperative that classroom teachers are equipped with evidence-based research to guide them in the selection of the appropriate assistive technology tool. This chapter provides evidence-based knowledge provided by practicing classroom teachers.

BACKGROUND

Learning disabilities in the classroom range from academic, language, communication, to perceptual and motor difficulties (Aronson, Orr, Carter, & Beachner, 2015). Students with learning disabilities, as well as all students, benefit from the use of academic and learning aids in the classroom. Examples of academic and learning aids are calculators, spell checkers, portable computers, and software to meet a specific need (Georgia Department of Education, 2019). The range of learning disabilities varies among

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