Chapter 26
Planning for Implementing Assistive Technology: A Functional Approach for Practitioners

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ABSTRACT

Assistive Technology (AT) is an instructional tool that may benefit many students. Practitioners, especially classroom teachers, are aware of the benefits of AT but many have limited experience and knowledge resulting in poor assessment, planning, and implementing of assistive technology to positively impact student learning. The content in this chapter provides readers with the following information: (a) assistive technology defined and discussed through the lens of historical legislation, (b) assistive technology devices, (c) augmentative and alternative communication, (d) assistive technology assessment, (e) person centered planning as a framework for AT utilization, and concludes with (f) instructional programming based on AT assessment results.

INTRODUCTION

Practitioners in educational settings often are aware of the benefits of Assistive Technology (AT) but may not have the experience or background knowledge to adequately assess and plan to use assistive technology to positively impact student learning. Educational practitioners are in need of information and skills to facilitate effective person centered planning for and implementing of assistive technology for students. The content in this chapter provides readers with the following information: (a) assistive technology defined and discussed through the lens of historical legislation, (b) assistive technology devices, (c) augmentative and alternative communication,
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(d) assistive technology assessment, (e) person centered planning as a framework for AT utilization, and (f) instructional programming based on AT assessment results.

DEFINITION OF ASSISTIVE TECHNOLOGY AND LEGISLATIVE INFORMATION

Assistive Technology (AT) is generally understood to include any device or service which increases, maintains, or improves the functional capabilities of persons with disabilities (Parette, 2005). AT helps individuals become more independent and participate in societal activities from which they may have been excluded without the AT device(s).

AT enriches the lives of individuals with disabilities allowing them to participate more fully as members of their families, social groups, and communities. Some application of AT are to aid in self-care, transportation, communication and learning including high tech and low tech devices. While high tech devices are now becoming frequently used, low tech devices have been used in educational settings for decades especially with students who have physical disabilities.

ASSISTIVE TECHNOLOGY DEVICES

Assistive technology devices can be grouped into two broad categories: “Low Tech” and “High Tech” devices. Low Tech devices are simple, with few or no moveable parts, often inexpensive, and easily accessible from stores and/or around the home or workplace. Examples of low tech AT include grips on spoons or pencils, slant boards, and study sheets to organize material. High Tech devices are more electronically complex or specialized manufactured equipment that is available through vendors and adaptive merchandise companies. Examples of high tech AT include voice output devices, word prediction programs, and switches to run electronic equipment or devices. Whether low tech or high, assistive technology can benefit students in curricular areas including language arts and mathematics or any other academic content. When strategically matched to the individual student, AT options can be of benefit in all academic content area including writing, reading, and math, as well as for studying and organization. A comprehensive list is found in Table 1 (Dell, Newton, & Petroff, 2008; Edyburn, 2003). In addition to their use to facilitate academic task completion, assistive technology devices are frequently useful to facilitate communicative behavior. When assistive technology is used to help a person communicate verbally or by other means such as pictures or written word, then the AT is called Augmentative or Alternative Communication.

AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

Within the broad scope of assistive technology, is the category of Augmentative and Alternative Communication (AAC) devices. AAC includes services and equipment that are designed to enhance an individual’s ability to communicate when traditional writing and speaking are not effective. More specifically, “AAC is needed by individuals with such complex communication limitations that they are unable to meet their daily communication needs through natural speech and or language. This definition does not require that the individual be unable to write or speak at all but rather that the person’s communication needs cannot be met without support” (Beukelman, Garrett, & Yorkston, 2007, p. 4). All students need the ability to communicate enabling them to be assertive and request their needs and desires (Kolb & Griffith, 2009). Like other assistive technology, augmentative and alternative communication devices can be low and high tech. All nonverbal communication such as symbols, gestures,
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