Chapter 89
Teacher Education and Principles of Effective Assistive Technology Implementation

Jennifer Courduff
Azusa Pacific University, USA

Amy Duncan
Claremont Graduate University, USA & California State University – San Bernardino, USA

Joanne Gilbreath
Azusa Pacific University, USA

ABSTRACT

The effective implementation of Assistive Technology (AT) is transformative for teacher practice and student learning outcomes. Educators who embrace this effort are faced with a set of challenges that are not found in typical technology integration efforts. In order to deeply integrate technology into instruction and learning, a change in pedagogy is required. In this chapter, the focus is to identify the unaddressed perspectives that impede technology implementation in diverse learning environments. When this unique set of perspectives is addressed, strategies for effective practice can emerge. First, there is a discussion on special education law and AT. Next, foundations of AT and effective implementation strategies at the classroom level are discussed. The process by which teachers can be supported in integrating technology tools into learning tasks is reviewed. A matrix that connects student-learning tasks with technology tools common to every classroom is presented. The importance of making emotional connections and providing time to practice and share in an environment where failure is seen as an opportunity for growth is provided. Finally, systemic implementation issues and strategies for success are shared.

PROLOGUE

It is after school on Friday and a special education teacher is reading the individual education program (IEP) of Aaron, a student who will be entering her class on Monday. She reads that this student is included in the general education classroom for the majority of the day and requires an augmentative device to support communication. She knows that the previous device will remain with the previous district and there is little information about how it was used and its level of effectiveness with

DOI: 10.4018/978-1-4666-8789-9.ch089

the student. It is becoming clear to this teacher that if this IEP is to be implemented she is not going to be able to do it alone. She will need to collaborate with a team of other professionals to make this plan a reality. She sighs. Where is she going to begin?

INTRODUCTION

When educational teams begin to expand their instructional practice with the integration of AT, they realize that they are impacting a complex set of individuals in a system. Each has an area of expertise and responsibility that is essential to bringing the dream of what AT can do for a student to life in the classroom.

Teams making requests on behalf of students do not journey far down the road before realizing that there are issues that if not addressed will create roadblocks to accurate assessment, procurement of equipment and resources as well as implementation of AT and Augmentative and Alternative Communication/Assistive Augmentative Communication (AAC) for students. Acknowledging the need to build the bridges that will bring these individuals into a cohesive team is the catalyst for change that is most needed.

It should therefore not come as a surprise that the effective implementation of assistive technology (AT) is transformative for teacher practice and student learning outcomes. Educators who embrace this effort are faced with a set of challenges that are not found in typical technology integration efforts. In order to deeply integrate technology into instruction and learning, a change in pedagogy is required. In this chapter, the focus is to identify the unaddressed perspectives that impede technology implementation in diverse learning environments. When this unique set of perspectives is addressed, strategies for effective practice can emerge.

First, there will be a discussion on special education law and AT. Next, foundations of AT and effective implementation strategies at the classroom level will be discussed. The process by which teachers can be supported in integrating technology tools into learning tasks will be reviewed. A matrix that connects student-learning tasks with technology tools common to every classroom will be presented. The importance of making emotional connections and providing time to practice and share in an environment where failure is seen as an opportunity for growth will be provided. Finally, systemic implementation issues and strategies for success will also be shared.

BACKGROUND

Law and Assistive Technology

The Individuals with Disabilities Education Act (IDEA) ensures that students who have special needs receive early intervention and services that support learning in the least restrictive environment (Blackhurst, 2005). Although students with special needs are now integrated into mainstream school environments, technology tools may not be ubiquitously integrated into the teaching of these students. Technology has great potential for improving the lives of these students. In considering the use of technology in special education, it might be helpful to review the basic terminologies used within this population. Assistive technology is an umbrella term that encompasses any technology device, program, website, or other resource that enables students with special needs to have fair and appropriate access to curriculum and learning of content (Edyburn, Higgins, & Boone, 2005). By law, technology resources must include accessibility features that enable users to access programs and communicate regardless of disability (see http://idea.ed.gov/explore/home). Common accessibility features include screen readers, text-to-speech, and speech-to-text options. These are found within the general settings on any electronic device.