Preparing pre-service and in-service teachers to consider and use assistive technology to differentiate instruction for culturally/linguistically diverse special education students in inclusive early childhood settings

Effective teachers in inclusive settings use assistive technology (AT) and instructional technology to create differentiated, interactive and motivating teaching/learning environments for young students with special needs and for early childhood students who are culturally/linguistically diverse. This paper addresses what teacher educators can do to familiarize their early childhood pre-service and in-service teachers with current options in assistive technology and prepare them to work with assistive technology. Software technology and instructional strategies to be used with students in a pre-service teacher preparation program will be explored. Presenters will share a variety of assistive devices that help students learn, communicate with others, use technology, be organized, take notes, read text, and learn a second language.

With the passage of IDEA Amendments of 1997, the reauthorization of IDEA in 2004, the Technology-Related Assistance for Individuals with Disabilities Act of 1988, and the Americans with Disabilities Act (ADA) of 1990, educators are required to consider the appropriateness of new technologies as a tool or intervention for every classified child with an Individualized Educational Program (IEP). Assistive technology and instructional technology can help young children compensate for their disabilities, focus on their abilities, and reach their full potential by allowing them to gain more control over their environment. Pre-service general education teachers and special education teachers need to have knowledge of and experience with assistive and instructional technology that allows students greater access to inclusive education settings and to society in general.

Pre-service and in-service teachers need minimum competencies in technology and assistive technology. This paper describes three-prong instruction teacher educators can provide pre-service early childhood teachers.

First, education programs should include an exploration of the variety of challenges students may have. Young children may meet the eligibility criteria for receiving services though IDEA or Section 504. Effective decisions about teaching strategies and the use of assistive technology are made by matching the needs of children from culturally and linguistically diverse backgrounds to instructional approaches and appropriate technology. Second, instruction should also provide familiarity with the laws and terms associated with assistive technology. Third, pre-service teachers should have hands-on experience with assistive technology hardware and software and understand when and how to use them. Teachers in inclusive classrooms can be overwhelmed by the number and variety of technological options their students may have. Educators need to be familiar with a variety of alternate devices and software that are age-appropriate. They need to consider the lowest technology solution before assuming that high technology is needed. They should have hands on experiences with...
hardware and software such as adapted keyboards, electronic communication, speech recognition, hand-held talking translators, reading systems and touch screens. All teachers need these three kinds of information in order to assess the educational challenges and learning differences of each student and to provide assistive technology devices and services.

IDEA defines the terms “assistive technology device” and “assistive technology service”. The term “assistive technology device” means 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 functional capabilities of individuals with a disability. Assistive devices allow young children with special needs to access technology in the most efficient way. An assistive-technology service is any service that directly assists in the selection, acquisition and use of an assistive-technology device. Assistive technology requires clear planning to benefit the students involved. Pre-service teachers need to have a clear understanding of the reason why it is being incorporated into the education of young children with disabilities or the technology becomes just another add-on. Pre-service teachers need to develop an awareness that many possibilities for assistive technology exist within an inclusion class environment.