

Assistive Technology for Teaching in the Inclusive Classroom

Focus: Strategies for Change
Topic: Personnel Preparation

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One of the many benefits of assistive technology is the potential to assist in integrating students into inclusive settings. It is necessary for the 'regular' classroom teacher to be part of a collaborative team and familiar with assistive technology in order to implement its use. During the past decade, the demand for technology literate teachers has increased dramatically. Both the government and public support the need for excellence and equity in technology integration, although much of the funding has focused on the in-service teacher, rather than the pre-service teacher. Technology experiences for preservice teachers at our university have been centered in one introductory class. The content of this course, too frequently, focused heavily on computer skills and minimally on integration of technology into the classroom. Little reference was made to assistive technology and appropriate application in the regular classroom.

One of the many benefits of assistive technology is the potential to assist in integrating students into inclusive settings. Assistive technology is defined 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 functional capabilities of individuals with disabilities" [20 U.S.C. Chapter 33, Section 1401 (25)]. The 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA) mandated that students with disabilities learn and be evaluated with their peers (Goldberg, 1999). It is necessary for the 'regular' classroom teacher to be part of a collaborative team and familiar with assistive technology in order to implement its use within the inclusive classroom.

A preliminary study was conducted from 1999 to 2000 at Texas Tech University College of Education to evaluate the use of a mini-workshop on assistive technology within a pre-service teacher technology course. The purpose of the study was three-fold. First researchers were interested in identifying pre-service teachers' current knowledge of and attitude toward assistive technology. Second, it was important to assess the impact of a mini-workshop on both knowledge and attitudes. Third, instruments and procedures needed to be evaluated for their potential use in future studies. A total of one hundred fifty-four students participated in all three phases of the study; pre-test, mini-workshop attendance, and post-test. The results of this preliminary study indicated that a mini-workshop was an effective method of changing knowledge of assistive technology for pre-service teachers and that the opportunity to handle and explore the various devices was a valuable portion of that mini-workshop. There was an

indication that, although, the instruments were determined to be reliable, they could be revised to improve reliability (Maushak, Kelley, & Blodgett, 2001).

One of the drawbacks of the mini-workshop approach was that a faculty member or guest speaker was needed to provide the appropriate information about the various pieces of equipment and it was necessary to borrow the equipment piecemeal from various places, including the special education faculty's personal equipment, the Education Service Center, local schools, and even some from students with disabilities. There were difficulties in providing consistent examples and transporting the equipment to and from various locations. Therefore, it was determined that there was a need to develop and formalize the assistive technology mini-workshop into a self-contained kit that will allow instructors or individual school districts to provide the mini-workshop both for pre-service teachers who will eventually teach in the state and for in-service for teachers working in the local region. This kit could then be borrowed by university personnel teaching Computer Application Courses, or local special education teachers in order to provide required special education in-service to local school districts. The Assistive Technology for Teaching in the Inclusive Classroom (ATTIC) Project had a major goal of developing a self-contained, portable collection of assistive technology to introduce assistive technology to 'regular' classroom teachers and prepare an accompanying power-point presentation that explained the uses of the devices. Funding for the project was obtained through a local foundation.

The workshops provided information on the many facets of assistive technology and its use in the inclusive classroom. Topics included the definition of assistive technology device and services as defined by United States federal legislation. The process of determining which assistive technology is appropriate using the SETT (Student needs, Environments, Tasks, and Technology) framework along with other considerations such as target group, portability, ease of use, etc. The bulk of the presentations focus on the AT functional areas of communication, positioning and mobility, access to information and academic instruction, and manipulation and environmental control. Each presentation was ended with a summative statement and a sharing of useful resources such as websites.

This project has been incorporated into the Computer Application Course for pre-service teachers that is required for all Early Childhood – Grade 4 and middle school education majors and has been made available to local school districts. Results of the project and impact are as follows:

In 2003-2004, the kit was developed and presentations were made to four classes, to a total of approximately 100 preservice teachers. These students will graduate and begin teaching in September, 2006. In 2004-2005, the presentation was made to three classes, plus was borrowed for use with one more class, again for a total of 100 students. These students will graduate and begin teaching in September, 2007. In 2005-2006, the presentation was borrowed and made to two classes for a total of 40 students. However, it was also used in outside classroom presentations and was used with over 600 students and educators. The project has, thus far had an impact on over 800 individuals. Ten faculty members have used the materials in their classes or for conference presentations. In addition, three graduate students have indicated that they would like to use the materials for their dissertation research.