Synthesis Paper: Technology and the Disadvantaged Learner

It is unlikely that one could find a classroom in any city or town in America, where all students learned at the same pace, read at the same level, understood concepts during the first presentation and reached the same levels of achievement at the same time. America was founded on diverse ideas. Diversity is the strength that makes this country distinctive. It stands to reason that classrooms in this country would hold diverse learners. Students from different cultures, those who speak English as a second language, students with learning disabilities or with medical or physical disabilities, and students from various socio-economic backgrounds all learn differently. There is no one way to educate any one student. The only thing that should remain the same is a critical and universal mindset for teachers.

In the article "Web Watch: Internet Resources to Assist Teachers with Struggling Readers" author Denise Johnson emphasizes the point that "teachers must believe that all children can learn to read" (Johnson, 2001). This sentiment should be carried a step further to state the essential belief that "All children can learn." In order to serve the diverse population of students that one inevitability finds in all classrooms in this country, one must adopt this mindset, break down the "rules" of how students should and should not be taught, and work to educate children in the way most beneficial for their individual learning needs.

There are many ways that teachers can easily accommodate students with special needs. However, ease of implementation should be secondary to the general benefits for the student. Teachers have a duty to ensure all students learn in their classroom by whatever means available. Thankfully, advances in technology have made it possible for teachers to help students whose needs are not being met through traditional teaching methods. As quoted in the 1991 IBM training manual, "For people without disabilities, technology makes things easier. For people with disabilities, technology makes things possible" (Schwab Learning). It is vital for teachers to take advantage of the ever changing and growing field of technology and use all the resources provided. It is not a matter of having a flashy, high-tech classroom; it is a matter of making things possible for all learners.

Authors Mary Moffitt and Jerry Stemach, in the article "Using the Computer for Teaching Literacy to Older, Struggling Readers", make the essential point that computers are often used more as a reward than a learning tool (Moffitt & Stemach). For the benefit of all students, not just diverse or struggling learners, this mentality must also be changed. The same article cites a report by the National Reading Panel from March 2000, which indicates, "that technology can be an effective tool for teaching reading" (as cited in Moffitt & Stemach). If the tool is effective, why do so many schools and classes still use computers for reward games? Using computers for games only is a terrible waste of resources. It is not entirely the fault of

teachers however. Schools and school districts must do a better job of educating teachers about resources available so these valuable tools can be put to better use.

According to the article, "Assistive Technology for Kids with Learning Disabilities" by Kristen Stanberry and Marshall Raskind, Assistive Technology (AT) is a term used to describe "any device, piece of equipment, or system that helps bypass, work around, or compensate for an individual's specific learning deficits" (Stanberry & Raskind). Assistive Technology does not cure a disability but devices and programs help a student or adult compensate. While some devices are medical, a wealth of resources are available on the Internet, providing teachers with means to assist struggling learners with all subjects, particularly reading and writing. Audio books and document readers can help students with difficulty reading but other non-Internet technology devices like OCR pens and personal listening systems can also help students in a discrete, atypical way. Multi-function or talking calculators can aid students with math disabilities while speech to text converters, AlphaSmart devices, graphic organizer software like Inspiration, and proofreading programs can help struggling writers. Even tools like spelling and grammar check can be considered assistive technology. What prevents more schools from using these devices in the classroom? In addition to lack of teacher education about the availability of these tools, another barrier is cost. While many programs are available for free on the Web, some can be very expensive. Unfortunately, this is not the biggest obstacle for struggling students.

Unfortunately, the obstacle many struggling students face, in addition to diversity and disability, is the mentality that programs like audio books or specialized calculators are a form of cheating. It has been my personal experience that students who are permitted to use specialized devices or computer programs are felt to be given an unfair advantage. Rather than permit a struggling student to use a technology device unavailable to others, the struggling student is not permitted to use anything at all. More unfortunate is the case where students are permitted to use devices only in specific instances. A student who has made progress in reading from listening to a book on tape or using a calculator will most certainly struggle in a testing environment where the same devices are not permitted. Until this mentality is changed, student use of adaptive technology will remain less frequent than it could be. Moffitt and Stemach claim that technology can break down the "walls that divide" but until these issues are addressed, the walls will only get taller.

As a teacher of students with special learning needs, I am witness to these issues on a daily basis. However, not all issues with regard to technology for disadvantaged learners are negative. In the proper environment, technology is the essential piece of the puzzle when adapting education for struggling learners. The resources outlined in Johnson's paper, as well as countless other articles on the Internet, provide teachers new ways to accommodate for

students with diverse learning needs and provide insight to new programs or devices available to enhance learning for students with technology. With the mentality that "All children can learn," the question becomes, "What program will work best for my individual students?" There is no simple answer. Teaching is often a game of trial and error. Even experienced teachers must re-evaluate their methods to see what is working and what is not. Teachers must be willing to explore different avenues and exhaust all resources before giving up. As technology rapidly changes, teachers must make the effort to remain on top of information in the field of educational technology. This requires a dedication to student learning and acceptance of students of all learning abilities.

As society grows and changes, students become even more diverse. It has been suggested that the forms of technology like video games, iPods, computers, and television, that are a part of everyday life for many children, have changed the way that they learn. Traditional teaching methods may not be the best means of reaching *any* child even if those methods are still relatively effective for the average learner (Sankey, 2002). As technology in the home increases, technology in the classroom must. Even students who learn well through traditional methods will have an enhanced learning experience through the use of technology. Schools must grow and change along with society and reach out to all learners of all diverse backgrounds and abilities. They must educate teachers on the available forms of technology but teachers must also take the responsibility to explore the field and educate themselves. Schools must set aside budgetary funds to provide the necessary technological devices to students, especially those who require such devices to learn. Finally, teachers, administrators, parents and students must accept that technology, when used to help disadvantaged learners, is not a form of cheating any more than a wheelchair is a form a cheating for a person who is unable to walk. Technology is a valuable and vital asset to all classrooms. It enhances learning for all and for disadvantaged learners, it makes learning possible.

Works Cited

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