Assistive Technology and Affordability

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Abstract: Assistive technology refers to any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities. Assistive technology can be low tech, mid tech and high tech. Hearing aids, amplified telephones, desktop magnifiers, braille embossers, screen readers, walkers, transfer benches, communication boards, touch screen mobile computers, hand held dictionaries, text-to-speech software, pencil grips, raised line paper, highlighter tape, and color overlays for reading are all examples of assistive technology. This presentation focuses on reviewing research on selected assistive technology devices. It also emphasizes the importance of collecting data to ensure the appropriateness of identified assistive technology device for the individual with disability.

As the world becomes more technologically advanced, students with disabilities can receive services that meet their needs in a more modern way. Increases in availability to resources has also created an increase in legislation regarding resource allocation. However, cost often hinders the ability of students to receive assistive technology. Assistive technology (or AT) is "any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (Johnston, 2007). Studies such as MISSION POSSIBLE have shown that there is a higher success rate both in and out of the classroom for individuals with learning needs. Assistive technology plays an important role in diverse student learning by providing the learner with the accommodations necessary to perform at maximum potential.

Types of Assistive Technology

There are three types of Assistive Technology available: high tech, mid tech, and low tech. Some of the high tech resources can be vehicles for language development and examples include the personal computer. They tend to be more complex, have an electronic component, are more expensive, and require more training to use (Wehman, 2006). Mid tech resources tend to have a mid-range cost and complexity level (i.e. cheap talk communicator). Low tech resources have lower cost and can be found in the home, school, office, or dollar store. These items may include calculators, or highlighters and tend to be simple with no training required for use (Sadao, 2010).

The most common forms of assistive technology are included in the graph below along with the minimum and maximum costs.

Cost for the Most Common Types of Assistive Technology
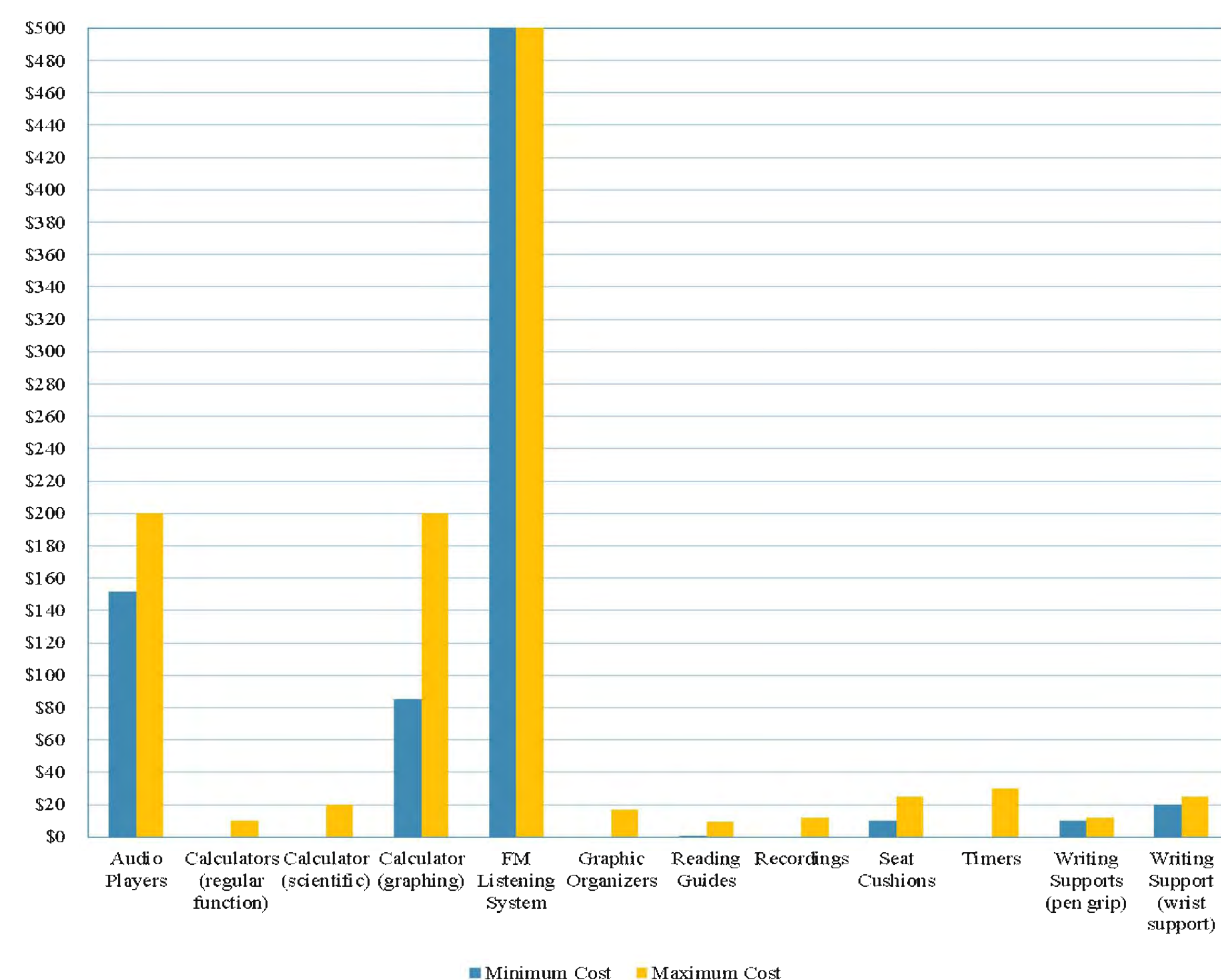
Cost

The most common sources of AT are relatively inexpensive, in fact, "according to the Job Accommodations Network, 71% of AT devices cost $500 or less" (Wehman, 2006). To increase the availability of these resources the FAPE provision defines the steps that students and families need to take in order to receive funding through the government. First, data on the child along with their medical diagnosis must be collected and recorded. Then, there must be IEP documentation outlining the services and as well as the outcomes and goals for the child. Next, the most effective device must be selected to best benefit the child's academic and medical needs. To decide if the technology will be utilized in the child's everyday life, the learning environment must be evaluated. The utility, longevity, appropriateness, availability, and sources of the device must all be considered when a device is chosen. To qualify for federal funding for the device the application must be submitted and reviewed. If denied there can be a funding appeal to try to be approved (Sadao, 2010).

Funding can also come from private insurance, but this usually only occurs when the device in question is medically necessary. There are also other private sources, such as United Way that will help fund a device for someone. Another source for families with low income is a lending library; this is where the device is loaned to the person for an amount of time for them to use.

Laws- How to Receive Assistive Technology Resources

Individuals with disabilities started recieving legislative attention in 1975. This was the year that the Education of All Handicapped Children Act was passed. It developed the ideas that continue to influence the American public education system today. One of the provisions, Least Restrictive Environment (LRE) mandated that all students be placed in the general classroom as much as they are able to (Sadao, 2010). Although not all students are in class with their normally-developing peers, teachers should place students in the most inclusive environment. Another provision defined in the EAHC 1975 was that schools provide a Free Appropriate Public Education, meaning that all students, regardless of disability, would be served in the public schools at no additional cost to their family. Finally, the Individualized Education Plan (IEP) set standards for what services are provided in the schools and how achievement will be measured (Johnston, 2007).

In 1986, the EAHC was revised, and in it, LRE was redefined as the students' most "natural environment" (Sadao, 2010). IEP was also expanded to include infants, toddlers, and families with an Individual and Family Education Plan that can be developed to encourage early intervention for children who are suspected of being developmentally delayed (Johnston, 2007). Two years later, the Technology Related Assistance Act provided federal grants for assistive technology for the first time. The hope with this act was to connect consumer information and training programs in order to help meet the needs of individuals with disabilities and their families (Sadao, 2010).

In 1996, the Telecommunications Act (PL 104-104) was enacted to help provide provisions that opened the doors to connect all classrooms to the superhighway of technology by 2000. Accessibility guidelines provided for accessibility, usability, and compatibility of new products and existing products that need changes or upgrades to positively affect functionality (Johnston, 2007). Taking technology beyond the classroom, the Carl D. Perkins act of 1998 provided individuals with academic and technical skills for success in a knowledge and skills economy. Funds from this act are allocated to both secondary and postsecondary schools (Kochhar, 1998).

The Assistive Technology Act of 1998 divided funding up into four titles (state of grant programs, national archives, alternative financing mechanism, and repeal and conforming amendments) (Johnston, 2007). This act was revised six years later in 2004, but the focus changed to delivering AT to persons with disabilities rather than developing the delivery structure. This act also forced the state to evaluate the effectiveness of the programs continually (Johnston, 2007).

The Education for All Handicapped Children act changed its name to the Individuals with Disabilities Education Act (IDEA) to emphasize the use of person-first language. IDEA of 2004 added a provision regarding inclusion in mandating that regardless of ability, there must be a universal design for learning (UDL). "Assistive technology goes hand in hand with universal design for learning because access to assistive technology, promoting participation, and furthering progress of the students are facilitated by AT and then fitting into UDL, which is good for the students and the teachers" (Sadao, 2010). IDEA 2004 also changed the definition of AT by excluding all medical items that are surgically implanted.

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