Computer Assistive Technology
In an Inclusive Based Classroom
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Inclusion in the classroom:

School-based activities which are inclusive of both typical students and students with disabilities are proliferating rapidly, and many students with disabilities who were previously isolated from their chronologically aged peers are now attending classes in their home school communities. The computer is an excellent tool to assist in including students with special needs. This informational PowerPoint is used as a tool to provide information on how a computer can be used as a tool in your classroom.
Cognitive Disability

Cognitive disabilities are those identified with processing and learning disabilities.

Software: Programs called “support learning software” include software tools such as word processors, electronic books, and support readers. Examples include:

- IntelliTalk
- ULTimate Kid Books
- Unifix Software
- Write:OutLoud

WiggleWorks is designed for children with learning disabilities.
Software for the Cognitive Disabled

• **ULTimate KidBooks**- Teachers and others can create electronic books using images and text from any source.

• **Unifix Software**- A combination of interlocking cubes designed to enable children to explore and understand basic concepts in mathematics.

• **IntelliTalk**- A talking word processor that is particularly beneficial for young students who are learning work processing as well as those needing auditory and visual supports as they write.

• **Write:OutLoud**- A talking word processor for students who need auditory and visual supports as they write.
Cognitive Disability
Cognitive disabilities are those identified with processing and learning disabilities.

Hardware: Computer equipment for the cognitive disabled focus on easy to use mouse and touch screen monitors.

- Touch Monitor
- Clicker 4
Hardware for the Cognitive Disabled

• **Touch Monitor**- A computer monitor with touch screen that is designed for use by individuals with learning, cognitive, and upper extremity disabilities

• **Clicker 4**- A voice output word processor program and on-screen keyboard program designed for individuals at all ability levels, including students with learning disabilities or cognitive disabilities.
Hearing Disability

Hearing disabilities include deafness, varying degrees of hearing loss and speech impairment.

Software: Programs for the hearing impaired and deaf include signing and interpreting software.

- Signtel Interpreter
- Interactive Sign
- HyperSign

The SignTel Interpreter software offers a database of more than 30,000 different recognizable words and phrases.
Software for the Hearing Disabled

- **Signtel Interpreter** - A communication aid for the deaf, designed to enable individuals with hearing disabilities to communicate with hearing individuals without an interpreter.

- **Interactive Sign** - A computer program that teaches teachers finger spelling and numbers in sign language.

- **HyperSign** - A sign language program designed to enable professionals or family members and friends to learn or improve basic signing skills.
Hearing Disability

Hearing disabilities include deafness, varying degrees of hearing loss and speech impairment.

Hardware: Equipment used by the hearing impaired to communicate are modems, amplifiers, and headphones.

- iCommunicator
- Easetalk MIC300i Internal Modem
- Audisee

The iCommunicator is a communication aid for the deaf designed to enable individuals with hearing disabilities.
Hardware for the Hearing Disabled

• **iCommunicator** - A communication aid for the deaf designed to enable individuals with hearing disabilities to communicate with hearing individuals without an interpreter.

• **Easytalk Modem** - A telecommunication device for the deaf designed for use by individuals with hearing and communication disabilities.

• **Audisee** - A communication aid for the deaf or people who are hard of hearing designed to enable students to read their teacher’s lips, regardless of the teacher’s movements or the language of instruction.
Visual Disability
Persons identified as blind or having low vision all fit the definition of legal blindness.

Software: Programs for visually impaired to blind vary greatly. Examples include:

- IntelliTalk
- Write:OutLoud
- Screen Reader Software
- Braille Translator Software

Bobby is a web-based program for people who are blind and can not access visual information.
Software for the Visual Disabled

- **IntelliTalk** - A talking word processor. The program can speak letters or read words to the user.
- **Write:OutLoud** - A more complex software that can read words, sentences and entire passages. This program is essentially a high tech word processor.
- **Screen Reader Software** - A type of software that read to the users. This software can be utilized by other programs other than word processors.
- **Braille Translator Software** - A program that converts braille to alpha/numeric forms. Usually works with specialized Braille printers.
Visual Disability

Persons identified as blind or having low vision all fit the definition of legal blindness.

*Hardware:* The hardware solutions offered benefit individuals with low vision to blind.

- Glare Protection Screen
- Large Monitor with High Resolution
- Magnified Display of Computer Screen
- Braille Key Tops

Braille key tops with larger font lettering for the visually impaired.
Hardware for the Visual Disabled

- **Glare Protection Screens** - Monitors with a filtering cover to reduce glare from lights and the sun.
- **Large Monitors with High Resolution** - Monitors ranging around 19 to 24+ inches to aid the seeing impaired.
- **Braille Key Tops** - A keyboard with braille located on all of the keys to aid the user in typing.
- **Braille Printer/Embosser** - A type of printer that instead of printing with ink will emboss the information onto a special paper. These printers can now do images or graphs besides braille.
Physical Disability
Disabilities that impact the range of motion.

Software: Programs for the physically disabled range from mild dexterity movements to severe.

- EZ Keys
- Dragger 32
- Screen Door 2000
- Dragon Naturally Speaking Pro
- Switch On Travel

Switch On Travel is a cause and effect training program designed for children with cognitive or severe physical disabilities.
Software for the Physically Disabled

- **EZ Keys** - A type of software that allows the user to abbreviate frequently used words and phrases. Simply type the abbreviation and EZ Keys automatically substitutes it with complete words.

- **Dragger 32** - A scanning program that can allow the user to highlight and use pictures and graphics.

- **Dragon Naturally Speaking Pro** - A speech recognition software that allows the user to speak into the computer. The program can be used to give commands to the computer or dictate word structures in a program.

- **Screen Doors 2000** - A program that displays a keyboard at the bottom of the monitor screen that users can touch to use.
Physical Disability
Disabilities that impact the range of motion.

*Hardware:* Computer equipment consist of alternative, easy to use input devices.

- *Single Finger or Mouthstick Keyboard*
- *Nohands Mouse (foot operated)*
- *Qpointer Premium (keyboard/mouse)*

Ergonomic keyboards and microphones input information for the physically disabled with greater ease.
Hardware for the Physically Disabled

- **Maltron Single Finger or Mouthstick Keyboard** - An input device that uses limited movement to navigate on the computer.

- **No Hands Mouse (Foot Mouse)** - A mouse designed for users that cannot use their arms but can use their feet with comfort.

- **Qpointer Premium (Keyboard/mouse)** - A keyboard and mouse emulator program that enables application-independent computer operation by voice. The voice is not used to communicate with applications, but to bring the cursor directly to the needed point on the monitor screen to perform mouse functions.
References & Web Links

- www.disabilityinfo.gov
- http://www.indiana.edu/~eric_rec/ieo/bibs/comprd-h.html
- http://www.emtech.net/inclusion.htm
- http://cat.buffalo.edu/tech-inclusion.php
- http://www.theteachersguide.com/SpecialEducation.html
- http://www.cast.org/
- http://www.abledata.com/Site_2/computers_gen.htm
- http://www.commodio.com/
- http://www.doi.gov/atic/
- http://cio.doe.gov/assistive/