

## Creating Accessible Workstation for Students with Disabilities

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## Introduction

In 1975, congress approved PL94-142, the Education for All Handicapped Children Act which was the predecessor to the Individuals with Disabilities Act (1990). Under the IDEA and American with Disabilities Act (ADA), the K-12 public education system must meet the needs of students with disabilities by providing them with the necessary accommodations they need to access a free and public education. According to the Council for Exceptional Children's website, over 6 million students in public schools are identified as having special needs that must be accommodated for in the classroom and other aspects of the school.

Our school will be creating a workroom to address the needs of students with a wide range of disabilities. The reason this workroom needs to be created is so the school will be in compliance with the ADA and IDEA. This workroom would provide barrier free technology resources for students with disabilities ranging from hearing, vision, learning, or physical disabilities.

The workroom would need to have accessible furniture such as adjustable tables and chairs to accommodate students using manual or electric wheelchairs. It would also need to have a long worktable to accommodate a Closed Circuit TV for students that have Visual Impairments. The workroom would need to also have the following:

- 5 Desktop computers
- 6 Study Carroll
- 5 Headsets
- 1 Scanner
- 1 Laser Color Printer
- 1 Laser B/W Printer (may be necessary for visual impairments)
- Braille keyboard
- Microphone/recorder
- Closed-captioned television
- FM receiver
- Risers
- 2 Closed Circuit televisions (portable and stand alone)
- 3 halogen lamps
- adjustable paper stand

The following software would need to be available on one or more of the computers:

- JAWS software
- Premier Software
  - 10 Keys to Access
- Zoomtext software
- Dragon Naturally Speaking software

Other additional equipment needed for checkout:

- 5 DANAs
- Textbooks on CD's

- 5 Laptop computer

In the table below, the equipment and software is outlined according to the specific area of disability it serves among our students. However, the materials are available to students in order to meet all their needs; therefore there may be some overlap or flexibility with which equipment or software is used and by whom.

<b>Disability</b>	<b>Software/Hardware</b>	<b>Additional equipment required</b>
<b>Visually Impaired</b>  <b>Low-Vision</b>	<ul style="list-style-type: none"> <li>• JAWS</li> <li>• Braille keyboard</li> <li>• Braille-n-Speak</li> <li>• Braille printer</li> <li>• Premier Assistive Technology               <ul style="list-style-type: none"> <li>○ Key to Access</li> </ul> </li> <li>• Zoomtext</li> <li>• Closed-circuit TV (stationary and portable)</li> </ul>	<ul style="list-style-type: none"> <li>• Scanner</li> <li>• Printer</li> <li>• Halogen lamps</li> <li>• Microphone recorder</li> <li>• Headsets</li> </ul>
<b>Hearing Impaired</b>	<ul style="list-style-type: none"> <li>• FM receiver</li> <li>• Closed Captioned TV</li> <li>• Microphone/recorder</li> </ul>	
<b>Learning Disabled</b>	<ul style="list-style-type: none"> <li>• Premier Assistive Technology               <ul style="list-style-type: none"> <li>○ Key to Access</li> </ul> </li> <li>• Naturally Speaking Dragon</li> </ul>	<ul style="list-style-type: none"> <li>• Scanner</li> <li>• Printer</li> <li>• Headsets</li> </ul>
<b>Mentally Handicapped</b>	<ul style="list-style-type: none"> <li>• Premier Assistive Technology               <ul style="list-style-type: none"> <li>○ Key to Access</li> </ul> </li> <li>• Naturally Speaking Dragon</li> </ul>	<ul style="list-style-type: none"> <li>• Scanner</li> <li>• Printer</li> <li>• Headsets</li> </ul>
<b>Physically Handicapped</b>	<ul style="list-style-type: none"> <li>• Adjustable desks</li> <li>• Risers for keyboard</li> <li>• Enlarged keypad</li> <li>• DANA's</li> </ul>	
<b>Impairment in Communication</b>	<ul style="list-style-type: none"> <li>• Augmentative or Alternate communication device</li> </ul>	

## The Design

This workroom will provide accommodations for students with visual, hearing, learning, physical disabilities, and mentally handicapped students. The study carrels in the room are adjustable for students confined to wheelchairs and provide privacy to students using the software on the computers in each carrel. A long table will be placed in the middle of the room to accommodate the Closed-circuit television and allow for five students to work in a quiet setting or separate setting. A halogen lamp will be placed in each corner of the room to reduce glare for visually impaired students. A cabinet will provide storage for the checkout or smaller equipment such as the laptops, key to access, Braille keyboard, Braille and speak, headsets, and DANA's. This equipment is portable to remain compliant with ADA and IDEA's Least Restrictive Environment. (LRE). This statute states that disabled peers must be in a regular setting with non-disabled peers as much as possible. If the technology to access the curriculum is portable then the disabled student is able to remain in a regular classroom for a majority of the time.

## **Description of Equipment**

**Universal Reader (Premier software)** is a comprehensive software program that includes a talking pointer, scan and read, scan and view, talking word processor, talking calculator, and other programs to assist disabled students. Also, by Premier is the Key to Access which is available for students with vision impairment, learning disabled students in the area of reading, and mentally handicapped students. This "flashdrive" will allow the students to remain in the regular classroom or computer lab with their peers without standing out, for example, if they were using a laptop while the rest of the class was using regular computer. This is not only very portable but the student is able to individualize the settings along with saving all their files to the Key to Access.

**JAWS** speech software program is designed for people with visual impairment. It also includes refreshable Braille displays.

**Zoomtext** software is designed for visually impaired students. This software enlarges a computer screen up to 16x's.

**Dragon Naturally Speaking** software allows the users to dictate their papers or presentation directly to a word document. This software can assist students with fine motor skills deficits, students with dyslexia, visual impairments, and mentally handicapped students.

**DANAS** would be available to students who are autistic or have a physical disability that impairs their ability to write. For autistic students, the teacher can upload their daily task list into the DANA. The DANA (which is wireless) is compatible with Microsoft Office. DANAs are able to transmit information from one DANA to another or to another computer. This can also be used as a communication device between teachers and parents. It is also effective for students who have fine motor disabilities, for example students with cerebral palsy.

**Closed-circuit Television** are primarily used for visually impaired students. The student is able to put written material under a magnifier which enlarges the material to the desired font size on a screen. The student is able to control the contrast of the material by choosing dark font on a light screen or light font on a dark screen. They can be stationary or portable.

**FM system** assists students with hearing impairments. A microphone is worn by the lecturer and a signal is sent to the student wearing a hearing aide or other device.

**Microphone/recorder** is used with students who are visually impaired or have difficulty taking notes in class. The teacher wears a small microphone and the discussion is recorded to a tape recorder.

**Augmentative or alternative communication device** – this type of device allows the user to “speak” through an alternate method. Usually the choices can be changed manually to suit the need.

## **Implementation Plan**

Due to overcrowding in the schools, a teacher workroom (on the first floor) will be modified for the ADA compliant technology workroom. This workroom will be separate from non-disable rooms to allow for uninhibited use of the equipment mandated through the student’s Individualized Education Plan (IEP), and also provide a quiet separate area for testing for the student’s whose IEP states that they test in a separate smaller setting. The school will require the support of central office personnel such as the superintendent, Special Education Director, and Assistive Technology coordinator along with the support of school administration, special education personnel, and computer resource teacher. Most importantly the Grant Writing Specialist from the county will be critical with helping attain the funding needed for this project.

Because the scope of this project is so big the initial grant will be written during this school year. The conversion of the workroom will take place during the summer. By the beginning of the following school year the basic installation of all workstations will be complete. By the first week of the new school year the school’s computer resource teacher, with the help of the Assertive Technology coordinator will have installed all necessary software.

## **Space Modification**

The teacher workroom will be completely gutted everything will be removed. This room is already set up for three computer workstations. The room will be re-wired for two extra workstations and then all five ADA compliant workstations will be installed as well as a portable CCTV workstation. The school is already set up to handle wheelchair bound students. Access to the room will not be a problem. The room will be arranged so that any student in a wheelchair will have no logistical problem accessing a workstation.

## **Checkout Equipment**

A storage cabinet house checkout equipment such as DANA's, laptop computers, textbooks on CDs, Premier's Key to Access. Each of the laptops will have the appropriate programs required by the student's needs to access the curriculum from within the regular education classroom. This will allow the students to remain in the classroom with their non-disabled peers. IDEA states that disabled students should remain in the least restrictive environment (LRE)

## **Furniture Modification**

Each workstation will be set up with an extra large study carrol. These carrols will include an extra large desktop area for the student to write as well as use a keyboard. Adjustable keyboard stands, paper stands, adjustable chairs will be place at each workstation. Each station will be easily modified to fit each individual student. Depending on the disability a teacher will be able to assist any student that needs it to adjust their workstation. Three halogen laps will be set up in three of the corners. Halogen laps cause less of glare then florescent lights and they can be adjusted to suite the needs of the students.

## **Computer Use Policy**

This lab will be set only for the Special Education Department. Each student in New Hanover County is required to have filled out and signed by his or her parent/guardian the "Network and Internet Access" release forms. This form outlines the Acceptable Use Policy, Privileges, and Network Etiquette.