

VI Times

Volume 3, Issue 3



MN Regions 5 & 7 Vision - O&M Staff
Barb Lhotka, Editor



Vision-O&M Staff

The purpose of a newsletter is to provide specialized information to parents and teachers of students with vision impairments. We hope to send regular newsletters that will cover topics of interest that are informative and create a base of knowledge that will assist our students with their on-going success!

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Contact your Teacher for the Blind / Visually Impaired or Certified Orientation & Mobility Specialist if:

- You have further questions on the newsletter topic
- Would prefer the newsletter in electronic format by email or in print.

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Technology

Technology used by students with vision loss is not just devices...the device is the very last step. So much more goes into the consideration of what will be needed by the student, where it will be needed, for what purpose or tasks it will be necessary, and last of all what is it that is needed? We call this the SETT process or framework. The letters stand for:

S=Student

E=Environment

T=Tasks

T=Tools

When considering technology as a way to access information for our students, teams must consider the following areas as are important for the student:

- Accessing Print
- Writing
- Computer Access
 - Output
 - Input

The everyday tasks of your son or daughter must be considered when looking at needs. There are frequently different tools to be used for different tasks. Students need to be as independent with the tools as possible, so they may change with maturity. Technology is also changing!

Fonts & Sizes:

Arial 12

Arial 14

Arial 18

Arial 24

Arial 30

Arial 36

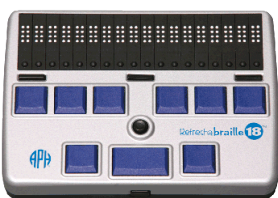
Calibri 16

Century Gothic 16

Lucida Sans 16

Tahoma 16

Times New Roman 16

Video Magnifier**Refreshable Braille Display****Accessing Print**

Regular Print When considering if the student is able to access regular print, the team must consider ability to read without adaptations including fluency and distance from the page. They also must consider the same information when the child uses prescribed glasses or contacts or the materials are enlarged on a photocopying machine (including the size or print or percentage of enlargement). With and without adaptations, data should be collected regarding rate of fatigue.

Large print deals mainly with the consideration of the advantages without and with an optical device. Reading fluency, rate of fatigue, size of font, style of font, and type of optical device must be considered.

Video Magnifier Using a video magnifier to increase the size of materials for viewing at a distance or near is a skill for some students to learn and use. Teams want to see the student using a 13-16 inch viewing distance from the screen, and will need to look at the following visual assistance:

- What size line drawings and text must be viewed?
- What color background and color letters are best for the student to view?
- Is the student able to easily manipulate the controls of a device while continuing with his/her work?
- Does the screen need to be online?
- Is the student able to read and write with the device?
- What is the portability?

Non-optical Devices Teams must look at the lighting in each work environment (including the playground). Glare and low lighting are both factors to consider before using visors, reading windows, etc.

Braille & Tactile Materials available in braille for general education curriculum, including the tactile graphic formats must be considered. The rate of reading braille, fluency, and consideration of paper and refreshable electronic braille must be considered.

Auditory Printed information is becoming more and more readily available through digital resources, including publishers. To use digital materials, a student must be able to listen and retain details; paraphrase information; write/type/braille a sentence from what was heard; operate all the functions of the digital device; and be able to understand rapid speech when listening.

Other Considerations The team must consider the distances at which the student can utilize the various devices (or when they do or do not need them).

The team must also look at the specific materials that are used in the classroom. For example, calculators, keyboards, bulletin boards, whiteboards or SmartBoards, reference materials such as dictionaries, etc.

Source: Georgia Project for Assistive Technology Assessment

Writing

Handwriting or written tasks must be addressed in terms of accessibility for a child with a vision loss. The student's ability to write legibly for his/her own reading back or for communication with another person must be considered. Handwriting is necessarily learned for the student to have a signature (with or without vision).

Technology considered includes:

- Signature guide



- Raised or bold line paper



- Felt tip pen or erasable ink pens



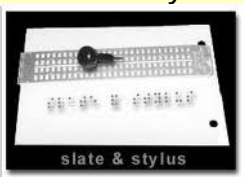
- Whiteboard with erasable markers



- Manual or electronic braillewriter



- Slate and stylus



Source: Georgia Project for Assistive Technology Assessment

Computer Access

Computer Access—Output The team must consider the options for a student's visual, auditory, and/or tactile output from a computer—including iTechnologies.

Visual output includes how menus and system text can be read on the monitor; the font style and size of print on the screen; use of the word processing program; color schemes; and access to icons. There must also be consideration of the need for screen enlargement software and the options and operation of the software. The student will also need to show he/she is able to maintain orientation on the screen while navigating around the magnified screen. The use of shortcut keys and computer setting controls also must be managed.

Auditory use of computer access output requires the student be able to understand synthesized and/or digital speech, navigate the screen using shortcut keys, and change the basic reading settings independently.

Tactile computer output requires the student be able to read braille text that is refreshable (nylon braille dots feel very different than paper dots), and the student must be able to navigate text using the braille display keys.

Computer Access—Input The keyboard accessibility is the essential ingredient to input success. Can the student locate and identify all the keys on the keyboard correctly? Can the student use function keys? Can the student use navigation keys? Can the student activate two or more keys at the same time? Can the student activate keys without miss-hits and/or key repeats? Is there good posture and wrist position used? What is the rate of typing (wpm)? Can the student use utility keys (example: sticky keys)?

Source: Georgia Project for Assistive Technology Assessment

Sample Consideration Chart

Topic Preview

Future issues of this newsletter will address:

- Early Childhood Intervention
- Parenting
- Self-Determination & Advocacy
- Sensory Efficiency
- Social Skills

Past Topics

- Introduction to BVI
- Cortical Vision Impairment
- Living Skills
- Low Vision
- Multiple Disabilities
- Orientation & Mobility
- Recreation & Leisure
- Transition
- Braille
- Technology

PROBLEM IDENTIFICATION		
Student's Abilities/Difficulties	Environmental Considerations	Tasks
• Print size • Reading visual or tactile medium • Illegible handwriting • Navigating the computer operating system and programs • Identifying & finding details in pictures • Touch typing • Need for audio enhancement • Color blindness • Photosensitivity • Activities of daily living • Participation in gym activities • Organization • Physical or motor-related issues	• Desk space • Classroom space • Location in the room • Visual access of board work • Visual access of classroom presentations • Type of learning medium • Type of light and level of illumination • External noises • Assistive Technology used past and present	• Reading • Math • Note-taking • Large group distance presentations • Visual activities • Computer-assisted tasks • Converting print into electronic format • Activities of daily living • Gym activities
Sensory Considerations		Narrowing the Focus
What sensory challenges does the student have that impacts learning? (i.e., visual, auditory, tactile)		Identify Specific task(s) for Solution Generation
Solution Generation Tools & Strategies	Solution Selection Tools & Strategies	Implementation Plan
Brainstorming only— No decisions yet Review solutions in respect to type of visual impairment and the area that requires additional support.	Use a feature match process to discuss and select idea(s) from Solution Generation	Identify Specific Task(s) for Solution Generation
		Implementation Plan
		AT trials and services needed: Formulate specific task objectives to determine effectiveness of trial: • Training needed • Date • Length • Person(s) responsible
		Follow-Up Plan
		Who & When Set specific date now

Source: Wisconsin Assistive Technology Initiative (WATI), 2009.