

Determining AT Needs of Students who are Blind or Visually Impaired

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AFB American Foundation
for the Blind

Expanding possibilities for people with vision loss

Objectives

- **Identify four major activities in which technology assists students who are blind or visually impaired**
- **identify technology tools that can assist students in these four major areas**
- **Identify the background information needed to complete a comprehensive assistive technology assessment**

Presentation Outline

Learning What AT Tools Are Available

**Conducting an Assistive Technology (AT)
Assessment**

Implementing the AT Recommendations

Filling the Toolbox

What can technology do?

- **It provide tools for**
 - **Accessing printed information**
 - **Accessing electronic information**
 - **Communicating through writing**
 - **Producing materials in alternate formats**

What kind of tools?

- **Tools for accessing information**

- **Visually**



- **Tactually**



- **Auditorally**



The Palm



- **It takes a toolbox full of tools to be successful**

Tools for Accessing Printed Information Visually

Non-optical Tools/Devices

- Lighting**
 - **Natural – control with blinds, shades, etc.**
 - **Artificial – incandescent, fluorescent, halogen, natural daylight bulb**
- Reading/Book Stands**
 - **Portable**
 - **Desktop**
 - **floor**
- Large Print Books**
- Electronic White Boards**

Tools for Accessing Printed Information Visually

Optical Devices

- **Magnifiers**
 - Hand-held magnifier
 - Stand magnifier
 - Spectacle mounted
- **Telescopes**
 - Hand-held
 - Spectacle mounted

Tools for Accessing Printed Information Visually

Electronic Devices

- **Video Magnifiers (CCTVs)**
 - **Desktop models**
 - **Flex-arm camera models**
 - **Head-mounted display models**
 - **Portable hand-held camera models**
 - **Electronic pocket models**
 - **Digital imaging models**
- **Specialized Scanning Systems**
 - **Optical Character Recognition (OCR)**

Tools for Accessing Printed Information Tactually

Braille Books

Tactile Graphics

Tools for Accessing Printed Information Auditorally

- **Readers and Audio Recordings**
- **Talking Books – Analog & Digital**
- **Talking Dictionaries**

Tools for Accessing Electronic Information Visually

- **Hardware**
 - **Large Monitors**
 - **Magnifiers**
 - **Monitor Stands**
- **Software**
 - **Font and Point Size Options of Word Processors and Internet Browsers**
 - **Operating System Accessibility Features**
 - **Screen Magnification Software**
 - **Specialized Scanning Systems**

Tools for Accessing Electronic Information Tactually

Refreshable Braille Displays

Accessible PDAs with Braille Displays

Tools for Accessing Electronic Information Auditorally

- **Screen Reading Software**
- **Specialized Scanning Systems**
- **E-text Readers**
- **Accessible PDAs**
- **Talking Calculators and Talking Dictionaries**

Tools for Written Communication

Writing Tools for Visual Learners

- **Bold & Raised Lined Paper**
 - **Bold Markers**
- **Dedicated Word Processors**
- **Accessible Computer System with Word Processing Software**

Tools for Written Communication

Writing Tools for Tactile Learners

- **Slate & Stylus**
- **Braille Writers**
 - **Manual: Perkins, Jot-a-Dot**
 - **Electronic: Perkins, Mountbatten**
- **Accessible Computer System with Word Processing Software**
- **Accessible PDAs**

Tools for Written Communication

Writing Tools for Auditory Learners

- **Accessible Computer System with Word Processing Software**
- **Accessible PDAs**

Tools for Producing Materials in Alternate Formats

Producing Materials in Large Print

- **Enlarging Photocopying Machines**
- **Computer Based Production**
 - **Acquiring Files**
 - **Entering Text with Keyboard**
 - **Scanning Systems**
 - **Word Processing Software**

Producing Materials in Braille

- **Braille Translation Software**
 - Need for certified braille transcriber service
- **Braille Embossers**

Producing Materials in an Auditory Format

- **Modified Tape Recorders/Players**
- **Digital Recorders**
- **Specialized Scanning Systems**
 - Text files
 - MP3 files
 - DAISY files - Digital Audio Information System

Presentation Outline

Conducting an Assistive Technology (AT) Assessment

- Preparing for the Assessment
- AT Considerations
- Completing the AT Assessment Checklist
- Completing the Recommendations Checklist
- Writing the Report & Recommendations
 - Rationale & Justification for Recommendations

Conducting an Assistive Technology (AT) Assessment

- **Preparing for the Assessment**
 - **Working with the AT assessment team**
 - **Gathering Background Information**
 - **Ophthalmologic Exam**
 - **Clinical Low Vision Evaluation**
 - **Functional Low Vision Evaluation**
 - **Learning Media Assessment**
 - **Psychological Evaluation**
 - **Academic and Other Assessments**

AT Considerations

- **What are the tasks the student is having difficulty completing?**
- **What modifications and adaptations have been implemented?**
- **Are these working?**
- **What assistive technology has been implemented?**

What is the Assistive Technology Assessment Form?

- **A guide for service provider wishing to determine technology needs**
- **A checklist of items and tasks**
- **A checklist for recommendations**

Completing the Assistive Technology Assessment Checklist

- **May require multiple team members to complete**
- **Not all items will be applicable**
- **Materials in alternate formats will need to be prepared**
- **Team members will need to gather adaptive equipment and become familiar with its operation**
- **Multiple sessions may be required**

Completing the Assistive Technology Assessment Checklist

- **How will the individual access printed information?**
 - Regular Print
 - Large Print
 - Use Optical Devices
 - Non-optical Devices
 - Braille & Tactile
 - Auditory
 - Reading Rates
 - Electronic Calculator and Dictionaries

Completing the Assistive Technology Assessment Checklist

- **How will the individual access electronic information?**
 - **Screen Enlarging Hardware**
 - **Screen Magnification Software**
 - **Refreshable Braille Display**
 - **Screen Reading Software**
 - **Input Devices**
 - **Keyboard**
 - **Mouse/Trackball**

Completing the Assistive Technology Assessment Checklist

- **How will the individual communicate through writing?**
 - **Standard Handwriting Tools**
 - **Adaptive Handwriting Tools**
 - **Braille Writing Tools**
 - **Electronic Writing Tools**

Completing the Assistive Technology Assessment Checklist

- **How will materials be produced in alternate format for the student?**
 - **Large Print**
 - **Braille**
 - **Auditory**

Recommendations for Assistive Technology

- **Completing the Recommendations Checklist**
 - **Accessing Printed Information**
 - **Accessing Electronic Information and Computer Access**
 - **Communicating Through Writing**
 - **Additional Hardware and Software**
 - **Tools for Producing Materials in Alternate Formats**

The Final Steps

- **Presenting the Assessment Report to the Team**
- **Implementing the AT Recommendations**
- **Filling the Toolbox**

Assistive Technology Tools

REMEMBER



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to be successful**

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