Access Technology Evaluation Checklist For Blind and Low Vision Needs

Credit: (Siu, McDowell, Amandi, Wilton, 2019)

Student's name _____

Date of birth _____

Student's grade or workplace setting _____

Person completing checklist _____

Date(s) of evaluation _____

This AT checklist can help an evaluator document information that is collected throughout an assistive technology evaluation. Prior to completing this checklist, the evaluator is best prepared if the student's information from a comprehensive Functional Vision Evaluation (FVE)*, Learning Media Evaluation (LME), clinical low vision evaluation (if available), and relevant background medical information are available. Some of the background information can be used to fill out parts of the checklist. Based on prior assessment data, a student's technology needs will dictate which sections of the AT checklist to focus on; not every section of the checklist will be filled out for every student.

(Refer to the Needs Assessment to determine starting points for a technology evaluation)

Any prescribed eyeglasses or contact lenses should be worn as prescribed throughout all evaluation activities.

The AT Checklist covers the following categories of access technology:

- Technologies for Accessing Printed Text & Images (Chapter 2)
- Technologies for Accessing Digital Text (Chapter 3)
- Technologies for Authoring (Chapter 4)
- Strategies for Accessing Multimedia and Data (Chapter 6)

If an evaluator needs more information about how technology considerations support selection of specific devices, refer to the relevant chapter in *Access Technology for Blind and Low Vision Accessibility, 2nd Ed.* (Siu & Presley, 2020).

The following forms are recommended for use with this checklist:

- Background Information for Technology Evaluation
- Digital Workflow Planning Tool
- Needs Assessment Template
- Environmental Assessment

*The FVE must incorporate use of formal and informal tools and methods for data collection. A comprehensive FVE process for every student includes assessment considerations related to ocular and neurological visual impairments.

TECHNOLOGIES FOR ACCESSING PRINTED TEXT AND IMAGES

Tools for Visual Access to Printed Media

Does the student experience visual fatigue? ☐ Yes ☐ No
If yes:

- When does the student experience visual fatigue? (Examples: After 10 minutes of reading visually, when stressed or ill)

  ☐ Describe indications of visual fatigue for this student:

  _____

- How long can a student use his/her vision before experiencing visual fatigue?

  _____

- What does the student do to recover and how long does it take the student to recover from visual fatigue? _____

  _____

- Be sure to evaluate tools for auditory access for tasks that cause visual fatigue—dual media and multimodal access can reduce or eliminate visual fatigue.

Non-optical Tools

List any non-optical tools the student uses currently and note the condition of each tool (e.g., new, used - scratched):

EVALUATE:

Large Print

- Preferred font style: _____
- Optimal print size in the preferred font style (lower case letter height in inches):

  _____
- Reading speed at the preferred font style and print size _____
- When reading at this font style and print size, student experiences visual fatigue after _____ minute
- Student prefers increased . . .
  - ☐ Line spacing
    - ☐ Double-space
    - ☐ Other: _____

- ☐ Word spacing
- ☐ Character spacing (kerning)
- ☐ Margins

Reading and book stands, slant boards

- Does it need to be portable? ☐ Yes ☐ No
- Does the student need to use the stand to write?
  ☐ Yes ☐ No
- Does the paper media need to be held in place for the student?
  ☐ Yes ☐ No
- Does the student need an adjustable viewing angle?
  ☐ Yes ☐ No
- Size considerations for the student's desk? ☐ Yes ☐ No

Acetate Overlays, Typoscopes, Line Guides

- Does the student have glare sensitivity? ☐ Yes ☐ No
- Does masking help reduce visual clutter? ☐ Yes ☐ No
- Does the student require assistance to track lines of text?
  ☐ Yes ☐ No

Lighting and Contrast

- Does student need task lighting? ☐ Yes ☐ No
- Describe preferences: _____
- Does the student have reduced contrast sensitivity? ☐ Yes ☐ No
- Are there other lighting, glare, or contrast considerations to be aware of?
  _____

Optical Devices

Check any optical devices that have been prescribed to the student by a low vision clinic:

- Magnifiers. If checked, provide more information:
  - ☐ Brand and model of magnifier:
    _____
  - ☐ Magnification power (example: 2x, 5x, etc.):
    _____
  - ☐ Built-in illumination? ☐ Yes ☐ No
  - ☐ Is the magnifier: Handheld vs. on a stand vs. rests on the paper (circle one)
  - ☐ Lighted or non-lighted? (circle one)
  - ☐ When is the student recommended to use this magnifier?

  - ☐ Other information:
    _____

- Telescopes or monoculars
  - ☐ Brand and model of telescope (monocular):
    _____
  - ☐ Magnification Power and Field (example: 4×12, etc.):
    _____
  - ☐ Focus with (circle one): One hand or both hands?
  - ☐ Spectacle-mounted? _____ Yes _____ No
  - ☐ When is the student recommended to use this telescope or monocular?

Video Magnification Systems

List any video magnification systems or CCTV the student uses currently:

EVALUATE:

- What magnification power does the student need?
- Does the student need a display screen with high resolution? (Students who need higher levels of magnification need high resolution to maintain clarity as content is magnified)
  _____ Yes _____ No
- What screen size does the student prefer (See Chapter 3, screen size considerations)
  - ☐ 10-inch
  - ☐ 13-inch
  - ☐ 15-inch
  - ☐ Other: _____
- Will the display screen block the student's view of the board if direct access to the board is needed? _____ Yes _____ No
- What is the student's preferred print size for reading (lower case letter height in inches):
  _____
- Does the system need to be portable? _____ Yes _____ No
  - ☐ If Yes, does the system need to be handheld? _____ Yes _____ No
- Does the system need to be wireless? (not connected to a wall outlet)?
  _____ Yes _____ No
  - ☐ If Yes, what is the necessary battery duration? _____
- Needed features for the viewing application—check all that apply
  - ☐ Onscreen line reading guide
  - ☐ Text masking
  - ☐ Text highlighting
  - ☐ Text-to-speech
  - ☐ Continuous text, scrolling marquee, teleprompter mode
- Does the student have glare, contrast, or lighting considerations? (Refer to previous section "lighting and contrast" if needed) _____ Yes _____ No

If yes—does the student prefer:

- ☐ Reverse contrast (white font on black background)
- ☐ Enhanced contrast (of existing colors)
- ☐ Color filter (select preference)
  - ☐ yellow font on blue background
  - ☐ yellow font on black background
  - ☐ red font on black background
  - ☐ greyscale (no colors)
  - ☐ other:

_____

- Does the student need magnification to access information at (check all that apply):
  - ☐ Near (within arm's length)? _____ ☐ Yes _____ ☐ No
  - ☐ Distance (beyond arm's length)? _____ ☐ Yes _____ ☐ No

- Identify tasks the video magnification system will be used for:
  - ☐ Reading
  - ☐ Writing and/or drawing
  - ☐ Viewing small physical items (example: dice, soldering circuits)
  - ☐ Viewing information on the board. If checked, be sure to evaluate tools for screensharing.
  - ☐ Viewing presenters at the front of a room (such as at a conference or school assembly)

- Does the student need a standalone or peripheral video magnifier?
  - ☐ Does student have an existing personal computing device, or will anticipate working with a personal computing device in the future?
    _____ ☐ Yes _____ ☐ No
  - ☐ Can the student multitask (switch between different apps and tasks) on one device?
    _____ ☐ Yes _____ ☐ No
  - ☐ How often does the student need video magnification in the classroom or workplace? (Remember: A video magnification system is only necessary to access printed media or for distance viewing when screensharing is unavailable—if a student has a digital copy or screensharing capability, a video magnifier is unnecessary)

    _____
  - ☐ Does the student prefer a standalone video magnifier (CCTV) or a peripheral one that could be connected/disconnected from a personal computing device?
    (circle one) ☐ standalone ☐ peripheral
  - ☐ Does the student desk space and position in-classroom need to be adjusted or considered based on the number of devices and plug-in requirements?
    If the student prefers a peripheral video magnifier:
  - ☐ How quickly can the student connect the peripheral video magnifier to his or her computing device?

    _____

☐ Accessibility and usability of viewing apps

- ☐ Can the student visually access the buttons/icons needed to operate a viewing app or video magnifier? _____ ☐ Yes _____ ☐ No

If no:

- ☐ Select a viewing app that is compatible with a screenreader
- ☐ Select a video magnifier with tactilely distinctive buttons/knobs (or modify/adapt existing buttons/icons)

- What types of tasks will the student use a video magnification system for?
  - ☐ Spot reading and shorter visual tasks
  - ☐ Longer reading tasks (if this is checked, be sure to evaluate needs for a scanning/OCR system and digital workflow)

Scanning and OCR Systems

- Scanning into a digital format for onscreen magnification and/or use with an annotation tool: Does the student need only visual access to print media?
  _____ ☐ Yes _____ ☐ No
- Scanning into an editable digital format for onscreen magnification, adjustment of visual settings, and/or text-to-speech: Would the student benefit from visual and auditory access to print media?
  _____ ☐ Yes _____ ☐ No
- Compatibility of scanning apps with the student's personal computing devices:
  - ☐ Brand and operating system of mobile computing device (Smartphone, tablet): _____
    _____
  - ☐ Brand and operating system of stationary computing device (laptop, desktop):_____
    _____
- Scanning + OCR capabilities: How much information does a student want to scan and access at one time?
  - ☐ A whole document
  - ☐ One page
  - ☐ One paragraph
  - ☐ A few sentences
  - ☐ A few words

Tools for Tactile Access to Tactile Media

List any currently available . . .

- Devices/tools that the staff and/or student use for alternate media production of tactile media (braillewriters, braille embossers, stereo copiers (thermoform or fuser), 3D printers):

- Devices/tools the student uses currently for tactile access (embossed braille, braille displays, notetakers, tactile graphics, 3D manipulatives):

EVALUATE:

Braille

- Braille reading rate (i.e., words correct per minute):_____
- Braille codes needed (check all that apply):
  - ☐ UEB
  - ☐ Nemeth
- Student demonstrates fluency when reading braille:
  _____☐ Yes _____☐ No
- Student demonstrates comprehension when reading braille:
  _____☐ Yes _____☐ No
- Student requires tactile access only: Use a scan and OCR system to digitize text and emboss hard copy braille
- Student would benefit from multiple sensory inputs (i.e. tactile and auditory access)—Does the student need a scan and OCR system to digitize text for reading with a braille display and/or screenreader and/or visually?
  _____☐ Yes _____☐ No

☐ Considerations for appropriately sized furniture for positioning and storage of braille materials and _____

Tactile Graphics

- Does the student have any difficulties with tactile perception?
  _____☐ Yes _____☐ No
- What tactile media experiences does the student have?
  - ☐ Collage
  - ☐ Embossed graphics
  - ☐ Micro-capsule (made with a fuser or swell form graphics machine)
  - ☐ Raised-line drawing tools
  - ☐ Thermoform
  - ☐ Other: _____
- How often does the student encounter images in the classroom that are not adequately represented by a verbal description and which they are unable to access visually?
  - ☐ Daily
  - ☐ Weekly
  - ☐ Monthly
  - ☐ Never
- Does the student have difficulties with using effective tactile strategies (e.g., tracking raised lines, locating tactile markers in a spatial array). ?
  _____☐ Yes _____☐ No

Manipulatives and 3D Models

- Does the student encounter instructional or workplace media that are not adequately represented by tactile graphics? _____☐ Yes _____☐ No
- Would the student benefit from learning with tactile manipulatives or 3D models?
  _____☐ Yes _____☐ No

- Does the student have difficulties with motor coordination?
  _____ Yes _____ No
- Does the student have difficulties with spatial perception?
  _____ Yes _____ No

Tools for Auditory Access to Printed Media

List any tools for auditory access the student uses currently:

EVALUATE:

- What is the student's current listening speed with adequate comprehension (words per minute (wpm)? _____
- Does the student have difficulties with auditory processing?
  _____ Yes _____ No

Readers and Visual Interpretation Tools

- Does the student have a human reader listed as a test accommodation?
  _____ Yes _____ No

  If yes: It is assumed that the student works with a reader regularly to complete non-test activities or interim assessments
- Does the student understand how to categorize information?
  _____ Yes _____ No
- Determine if visual interpretation apps can be used with live interpreters without supervision. Take appropriate precautions if the student is a minor (under 18 years old) or is legally conserved. Is the student a minor or legally conserved? _____ Yes _____ No

Scanning, OCR (text recognition), TTS, and Computer Vision Systems

- Would the student benefit from auditory access for (check all that apply):
  - ☐ Spot reading or short tasks (on demand auditory access)
  - ☐ Continuous reading or longer tasks
  - ☐ Menu access
  - ☐ Supporting access to information while transition from print to braille literacy
- Does the student require apps that are accessible with a screenreader? (Unable to visually access media controls)
  _____ Yes _____ No
- What portable personal computing device that the student currently have? (Example: tablet, smartphone) _____

Talking Devices and Apps

- Does the student work in a lab or design environment and would benefit from talking lab or design equipment? _____ Yes _____ No
- Does the student have any programming experience or interested in learning?
  _____ Yes _____ No
  - ☐ If yes, evaluate options for an electronic prototyping platform and support students to create accessible tools for specific tasks

TECHNOLOGIES FOR ACCESSING DIGITAL TEXT

List any personal computing devices the student uses currently (media player, smartphone, tablet, laptop, desktop, notetaker, etc.). Include: brand, model, device size, processor speed, RAM. What condition is each device in?

EVALUATE:

Does the student benefit from multimodal access to information (visual+auditory, auditory+tactile, visual+tactile+auditory)? If yes, please refer to the Digital Workflow Planning Tool.

Considerations When Evaluating Needs for a Personal Computing Device

- Screen size (if relevant)
  - What does the student prefer? _____
  - How will the student carry a personal computing device?
    - ☐ Backpack (Maximum screen size should not exceed 16")
    - ☐ Rolling bag or cart
    - ☐ Wheelchair
  - ☐ Does the student require portability while working?
    _____ ☐ Yes _____ ☐ No
  - ☐ Resolution when magnifying content onscreen
- Physical set up and positioning of monitor/device
  - ☐ How large is the student's current desk? _____
  - ☐ Is there sufficient storage space for peripheral components and cords?
    _____ ☐ Yes _____ ☐ No
  - ☐ Is the student's desk (circle one):
    shared with others ☐ personal ☐
  - ☐ Will the display screen block the student's view of the board if direct access to the board is needed? _____ ☐ Yes _____ ☐ No

- Accessibility of built-in apps, usability of built-in accessibility tools. Which accessibility features does the student need (evaluate each feature when comparing different devices to determine if a built-in feature will suffice or if an add-on tool is needed to deliver that feature that the student needs):
  - ☐ Apps that are accessible with a screenreader
  - ☐ Compatibility with accessible reading and notetaking apps
  - ☐ Screenreader
  - ☐ Text-to-speech (TTS) for Audio-Supported Reading; usability across multiple program applications
  - ☐ Screen magnification; usability when panning, compatibility with a screenreader if needed
  - ☐ Reverse contrast
  - ☐ Larger mouse pointer and cursor

- ☐ Larger fonts
- ☐ Adjustable screen brightness and color temperature

- Flexibility and robustness when switching between various access modes (tactile, auditory, visual)
- Other
  - ☐ Battery life
  - ☐ Time needed for full charge
  - ☐ Availability of local technical support and troubleshooting

Considerations When Selecting A Reading App

- Accessibility with a screen reader and braille display (if student needs a screenreader and/or braille display)
- Usability of app interface
  - ☐ Contrast of buttons and icons
  - ☐ Menu layouts
  - ☐ Ease of accessing accessibility features to adjust visual and auditory settings
- Compatibility with accessible digital talking books and related libraries such as Bookshare
- Compatibility with reading different file formats: DOCX, PDF, EPUB
- Compatibility with personal computing device
- Integrated OCR and TTS features
- Student would like to access narrated audio books from
  - ☐ Learning Ally Including Voicetext (highlighted text + narration)
  - ☐ National Library Service BARD: Braille and Audio Reading Download
  - ☐ Commercial service such as Audible/Kindle with synchronized text and narration
  - ☐ Other

Tools for Visual Access to Digital Text

List any tools for visual access to digital text that the student uses currently:

<u>Evaluate student needs for:</u>

Visual Settings

- ☐ Operating System Display Properties
- ☐ Cursor Display Settings, Pointer Size
- ☐ Font Styles and size
- ☐ Contrast
- ☐ Text highlighting and masking
- ☐ Focus Enhancement
- ☐ Page zoom

Screen Magnification

- Fine motor skill challenges? _____ ☐ Yes _____ ☐ No
- How does the student prefer to control the screen magnification tool?
  - ☐ Gestures
  - ☐ Keyboard commands
- Preferred font style: _____
- Optimal print size in the preferred font style: (lower case letter height in inches): _____
- Reading speed at the preferred font style and print size: _____
- When reading at this font style and print size, student experiences visual fatigue after _____ minutes. Explore tools for auditory and/or tactile access.
- Student prefers increased . . .
  - ☐ Line spacing
    - ☐ Double-space
    - ☐ Other: _____
  - ☐ Word spacing
  - ☐ Character spacing (kerning)
  - ☐ Margins
- Student prefers a (circle one): ☐window zoom ☐full screen zoom
- Student benefits from multimodal access while using a screen magnification tool—needs compatibility with a screen reader and/or braille display

Tools for Tactile Access to Digital Text

List any notetakers or braille displays the student uses currently:

EVALUATE:

This section will determine which types of braille displays would most benefit the student: Standalone braille notetaker (with built-in operating system), braille display for a personal computing device, braille display with note-taking capabilities ("smart" display)

- Display size
  - ☐ Does the student want a portable braille display?
    _____ ☐ Yes _____ ☐ No
  - ☐ For prolonged reading tasks, what size display does the student prefer? (How many cells?)
    _____
  - ☐ Are there instructional considerations for what size of a display is needed to support the student's current literacy level and/or displaying math problems?
    _____ ☐ Yes _____ ☐ No
    If yes, please provide more details: _____

- Refresh rate
  - ☐ Does the student want braille to auto advance as text is read?
    _____☐ Yes _____☐ No
  - ☐ What is the student's current braille reading speed? _____
- Orientation of navigation buttons; how does the student prefer to manually 'advance to the next line of text?
  - ☐ Using thumbs
  - ☐ Using fingers
- Tactile resolution; how does the student prefer their braille to feel?
  - ☐ Softer dots
  - ☐ Harder dots
- Pin noise; is the student sensitive to how the pins sound as they refresh?
  _____☐ Yes _____☐ No
- Compatibility with braille codes; which codes does the student use and encounter? (Check all that apply)
  - ☐ UEB
  - ☐ Nemeth
  - ☐ Computer
  - ☐ Foriegn Languages (identify which ones): _____
  - ☐ Music
- Compatibility with cloud computing platforms; identify which cloud computing platform(s) the student needs to access: (Check all that apply)
  - ☐ Google Drive
  - ☐ Google Classroom
  - ☐ Dropbox
  - ☐ Box
  - ☐ Other: _____
- Connectivity with personal computing devices; when connecting a notetaker or braille display to a personal computing device (i.e., laptop, tablet, smartphone), how does the student prefer to connect?
  - ☐ Wireless (circle one): ☐ Bluetooth ☐ Wifi
  - ☐ Wired (circle one): ☐ USB ☐ Mini-USB ☐ Micro-USB
  - ☐ Other: _____

Tools for Auditory Access to Digital Text

List any text-to-speech (TTS) or screenreader tools the student uses currently:

EVALUATE:

- What is the student's current listening speed with adequate comprehension (list in words per minute (wpm)? _____
- Does the student have any auditory neuropathy or processing considerations?
  _____☐ Yes _____☐ No

- Would the student benefit from auditory access for: (check all that apply)
  - ☐ Spot reading or short tasks (on demand auditory access)
  - ☐ Continuous reading or longer tasks
  - ☐ Supporting access to information while transition from print to braille literacy
- Does student need a standalone device/simple interface?
  _____☐ Yes _____☐ No
- Does the student prefer to multitask on one device? _____☐ Yes _____☐ No
- Can the student visually access the media controls for TTS?
  _____☐ Yes _____☐ No
  If no, then explore screenreader options

Considerations When Choosing a Screenreader With a Student

- Compatibility with the student's personal computing device
  - ☐ Windows [i.e. Narrator (built-in), JAWS and NVDA (add-on)]
  - ☐ Apple [i.e. VoiceOver (built-in)]
  - ☐ Browser-based [i.e. ChromeVox (built-in)]
  - ☐ Android [i.e. TalkBack (built-in)]
- Identify a freely available screenreader that can be downloaded to a flash drive for use with public or borrowed computers (backup screenreader): _____
- Can the student touch type fluently? _____☐ Yes _____☐ No
- Can the student hold down 2 or 3 keyboard keys at one time to perform a key command?
  _____☐ Yes _____☐ No
- Speech synthesizers
  - ☐ Which voice does the student prefer:
    _____
- Braille support
  - ☐ Who will pay for newer screenreader versions as an operating system updates? (Check 1):
    - ☐ School district/county
    - ☐ Workplace
    - ☐ Department of Rehabilitation
    - ☐ Student

TECHNOLOGIES FOR AUTHORING

List any authoring tools the student uses currently (paper, pens/pencils, digital pencils, braillewriters, slate and stylus, apps, speech-to-text etc.):

EVALUATE:

- Does the student have any fine motor challenges?
- What is the student's reading level? _____
- What is the student's writing level? _____

Hardware

- Does the student need to touchtype? _____ ☐ Yes _____ ☐ No
  If yes: Avoid using an adapted keyboard unless there is a motor consideration
- How does the student prefer to write? (check all that apply, including more details for the types of tasks a student likes to complete with each tool):
  - ☐ In braille
  - ☐ With a 6-key braille keyboard and screenreader
  - ☐ With a QWERTY keyboard and screenreader
  - ☐ With a QWERTY keyboard and screen magnification
  - ☐ Under a video magnifier
  - ☐ Dictation
  - ☐ Using a digital pencil and touchscreen device
  - ☐ Using a bold line pen
  - ☐ Using bold lined paper
  - ☐ Other: _____
- How does the student prefer to copy information from the board?
  - ☐ Receive a digital copy of notes
  - ☐ Receive a paper copy of notes
  - ☐ Use a video magnifier
  - ☐ Take a picture of notes on the board
  - ☐ Copy information from a whiteboard at the student's desk

Software

- Does the student need a keyboarding app that is accessible with a screenreader?
  _____ ☐ Yes _____ ☐ No
- Would the student prefer to use a screensharing program to access information on the board?
  _____ ☐ Yes _____ ☐ No
- Would the student benefit from a word prediction program?
  _____ ☐ Yes _____ ☐ No
  If yes: check for compatibility with a screenreader if needed
- Does the student need an accessible touch typing program?
  _____ ☐ Yes _____ ☐ No
  If yes: check for compatibility with a screenreader if needed
- Which word processing programs are compatible with the student's personal computing device?

  _____
  - ☐ Choose a program that has features for creating and editing Heading Styles
- How can the student benefit from reviewing what has been written?
  - ☐ Using a screenreader
  - ☐ Using text-to-speech
- What is the online workspace of your student's school or workplace?

  _____

Considerations When Selecting a Notetaking App

- Compatibility with personal computing device
- Accessibility and usability with the student's access tools such as: screen reader, braille display (if student needs a screenreader and/or braille display), reverse contrast, TTS
- Usability of app interface
  - ☐ Contrast of buttons and icons
  - ☐ Menu layouts
  - ☐ Ease of accessing accessibility features to adjust visual and auditory settings
- Ease of creating and organizing notes and notebooks, input options
- Ease of inserting, organizing, and finding information within a note
- Authoring and editing tools, including keyboard/stylus/digital pen input, handwriting OCR
- Multimedia support for adding audio recordings, pictures, files
- Compatibility to sync with a cloud storage platform
- Integrated OCR and TTS features
- Ability to annotate a worksheet or diagram
- Ability to sync audio recordings with timing of written or typed input
- Ability to sync across multiple notetaking devices
- Cost
- Other: _____

Considerations When Selecting a Screensharing App

- Compatibility with a teacher's or presenter's existing workflow
- Compatibility with a viewer's existing workflow
- Ease of connecting a viewer's screen to the primary screen
- Need for a one-time screenshare versus the ongoing need to share the same screen
- Cost

Tools for Visual Authoring

- What is the student's preferred tool, pen or pencil? _____
- Does the student need yellow or gray paper for writing without glare?
  _____☐ Yes _____☐ No
- Does the student want to write or draw under a video magnifier?
  _____☐ Yes _____☐ No
- Does the student want to write or draw on a touchscreen device?
  _____☐ Yes _____☐ No
- Is the student able to read back her/his own writing without any difficulty?
  _____☐ Yes _____☐ No

Tools for Tactile Authoring

- Slate and stylus. When does the student use this tool? When could the student use this tool? _____
- Abacus. When does the student use this tool? When could the student use this tool? _____

- Braille writer. Which one does the student have? What is its current condition? _____
- Smart brailler. Student benefits from audio feedback when writing. What is its current condition? _____
- Braille display or notetaker. Which one does the student have? What is its current condition? _____
- Does the student have decreased tactile coordination or dexterity? _____ ☐ Yes _____ ☐ No

Tools for Auditory Authoring

- Does the student have intelligible speech that is recognized by dictation tools? _____ ☐ Yes _____ ☐ No
- Does the student have a scribe listed as a test accommodation? _____ ☐ Yes _____ ☐ No

  If yes: It is assumed that the student works with a scribe regularly to complete non-test activities
- Does the student prefer to listen and review what has been written? _____ ☐ Yes _____ ☐ No

TECHNOLOGIES FOR ACCESSING MULTIMEDIA AND DATA

List any tools and media formats the student uses currently to access multimedia and data:

EVALUATE:

- How often does the student need to access videos to meet learning objectives?
  - ☐ Daily
  - ☐ Weekly
  - ☐ Monthly
  - ☐ Other: _____
- Does the student need audio description for videos? _____ ☐ Yes _____ ☐ No
  If yes (check all that apply):
  - ☐ The student needs video description for commercially-available videos
  - ☐ The student needs video description for YouTube videos
- List any online curricula or tools that the school district has adopted that is not accessible with the student's access technology: _____
- Does the student have sufficient background experience with manipulating data and hearing information to interact with sonification of data displays? _____ ☐ Yes _____ ☐ No
- Does the student need to interact with a Learning Management System (LMS) (examples: Moodle, Canvas, Google Classroom)? _____ ☐ Yes _____ ☐ No
- Is there staff support for producing alternate media? _____ ☐ Yes _____ ☐ No

APPENDIX 8.1 BACKGROUND INFORMATION FOR A TECHNOLOGY EVALUATION

Background Information for Assistive Technology Evaluation

Name: _____ Birthdate: _____ Grade: _____

School: _____

Referred by: _____ Reason for Referral: _____

Initial or Ongoing Evaluation: _____

Name of Technology Evaluator: _____

Additional Disabilities: None Describe: _____

Functional Implications of Diagnoses:

_____

_____

Current medication(s): _____

Reported/observed visual side effects: _____

_____

Eye Report Summary

Dr. _____ O.D.

Date(s) examined: _____

Eye condition and functional implications: _____

A. Distance visual acuity:

	Without Prescription	With Prescription	With Low Vision Device
OD	_____	_____	_____
OS	_____	_____	_____
OU	_____	_____	_____

B. Near visual acuity

	Without Prescription	With Prescription	With Low Vision Device
OD	_____	_____	_____
OS	_____	_____	_____
OU	_____	_____	_____

Information from Learning Media Assessment

Primary learning channel: _____ visua _____ tactile _____ auditory

Secondary learning channel: _____ visual _____ tactile _____ auditory

Tertiary learning channel (if applicable)l: _____ visual _____ tactile _____ auditory

Other: _____

Current recommendations:

Reading preferences (if reported)

Preferred visual format (specify): _____

Point size: _____ Font: _____ Reading Distance: _____

Approximate reading rate: _____ wpm

Preferred audio format (specify): _____

Approximate reading rate: _____ wpm

Lighting preferences: _____

Braille approximate reading rate: _____ wpm oral _____ wpm silent

Experiences visual/physical fatigue after reading _____ minutes

Relevant visual information from clinical low vision examination: _____

Relevant visual information from Functional Vision Assessment: _____

Relevant visual information from medical, psychological, and academic evaluations: _____

Relevant visual information from teachers' observations and assessments: _____

Additional comments: _____

APPENDIX 9.1: GPAT AT CONSIDERATION PROCESS GUIDE

Georgia Project for Assistive Technology
Assistive Technology Consideration Process Guide

Student:_____ **School:**_____ **Date:**_____

The GPAT Assistive Technology Consideration Resource Guide is a companion document that will assist IEP teams in completing this form. Please refer to the Resource Guide for examples of instructional tasks and possible solutions to document within this Consideration Process Guide. Each column contains general examples for each area but is not considered all inclusive.

Directions for completing this Consideration Process Guide:

1. Using the student's present levels of performance, in which general area(s) does the student experience difficulty completing instructional tasks?

☐ Writing/Written Composition	☐ Spelling	☐ Reading	☐ Math
☐ Study/Organizational Skills	☐ Hearing/ Listening	☐ Oral Communication/ Language	☐ Seating / Positioning / Mobility
☐ Activities of Daily Living	☐ Recreation and Leisure	☐ Pre-vocational and Vocational	☐ Other:_____

☐ No areas are identified. No further consideration is required. _____

2. **Column A**: List one area with one instructional task per row, such as Writing/Copying notes from board. Check the location(s) where the student needs to complete the task.

Complete columns B-E on each row until it is determined that the student completes the task independently, then stop.

3. **Column B**: List the standard classroom material currently used by the student to complete the task.
4. **Column C**: List the accommodations, modifications and/or strategies currently used by the student to complete the task.
5. **Column D**: List the assistive technology solution(s) currently used by the student to complete the task.
6. **Column E**: List other possible solutions the IEP team has identified (accommodations, modifications, strategies, AT devices and/or services).

A. Area and Instructional Task(s)	B. Standard Classroom Materials	C. Accommodations/ Modifications/ Strategies	D. Assistive Technology Solutions	E. Other Possible Solutions (Accommodations, Strategies, Assistive Technology Devices and/or Services)
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	
☐ School ☐ Home/ Community	If not independent, continue to **C** →	If not independent, continue to **D** →	If not independent, continue to **E** →	

Consideration Outcomes:

☐ **No, assistive technology is not required. The student independently accomplishes instructional tasks in all general areas using:**

- ☐ **Classroom Materials**
- ☐ **Accommodations**
- ☐ **Modifications**

☐ **Yes, assistive technology (devices and/or services) is required.**

- ☐ **AT is required and the IEP team knows the nature and extent of the AT devices and services needed.**
- ☐ **IEP Team needs additional information (i.e., observation, trial use, consult with specialist, evaluation)**

Completed by (include name and position):

Name	Position	Name	Position

APPENDIX 9.2: ENVIRONMENTAL ASSESSMENT FOR ACCESS TECHNOLOGY

What are the environments that this student needs to access? _____

_____

- How is information being disseminated and exchanged? _____

  _____

  - What has been working well for the student? What has been tried but proven unsuccessful?

  - What is the workflow for each classroom or workspace?_____

    _____

- What systems are supporting information exchanges in each environment? _____

  _____

  - Has the school or workplace already adopted a technology plan? If so, what does it entail?

    _____

  - What are the readily available technologies that typically sighted peers are using? _____

    _____

What are the tasks that are expected to happen in each of the student's environments?_____

_____

- In each environment, what are the expected tasks of everyone for accessing information?

  _____

- In each environment, what are the expected tasks of everyone for authoring information?

  _____

What are the student's current learning preferences? _____

_____

- What sensory access channels is a student currently relying on the most for accessing information?

  _____

APPENDIX 9.3: DIGITAL WORKFLOW PLANNING TOOL

Credit: (McDowell, 2019)

Planning Tool: Digital Workflow for Students who are Visually Impaired

Student Name:		
School:	Age:	Grade:
District:	Date Completed:	
Persons Completing Summary:		

Digital workflow refers to an efficient electronic system for accessing, processing, sharing and storing work. Digital workflow can reduce a student's reliance on others for accessible materials. Use of digital workflow is tied to assessment and goals and aims to increase a student's independence and self-advocacy. Digital workflow addresses needed skills for future access to work environments and higher learning. Considerations when planning for digital workflow:

- Developmentally appropriate practice and sequenced learning
- Environmental considerations and back up plans when using technology
- Teaching successful use of digital workflow does not happen in one session
- Allow for diversity of workflows
- Develop workflows collaboratively (students and teachers)

Information from Functional Vision Assessment (FVA) and Learning Media Assessment (LMA)
Student's primary and secondary learning media or student's use of dual-media or multi-media:

Considerations:

Information from Access Technology (AT) Assessment

Student uses:

- ☐ Large print
- ☐ Braille
- ☐ Digital Books (Daisy, Bookshare)
- ☐ Text-to-speech (TTS)
- ☐ Narrated audio books (Learning Ally, BARD/NLS, public library service)
- ☐ Computer w/screen reader and/or refreshable braille display (RBD)
- ☐ Specialized lighting
- ☐ Computer with magnification settings/software
- ☐ Dedicated braille notetaker
- ☐ Touchscreen tablet such as iPad
- ☐ Reading stand/slant board
- ☐ Enhanced visual presentation such as increased spacing, large font, reverse contrast (white font on black background)
- ☐ Video magnifier
- ☐ Hand-held magnifier or monocular
- ☐ Writing tools:
  - ☐ dictation
  - ☐ bold pen
  - ☐ 6-key braille keyboard
  - ☐ on screen writing with stylus
- ☐ Audio described videos
- ☐ Other:

Notes on current access technology and considerations:

Current digital workflow and classroom technologies:
Notes on general technology use. Does student use email, Google Chrome/Drive/Docs, Dropbox, other cloud note-taking or storage options? What devices, applications, and learning management systems (LMS) are used school-wide or in specific classes?

Implementing digital workflow, targeted areas:
What tasks and activities do we think technology could be an efficient tool for? What tasks and activities could student complete more independently? How are those tasks completed now and are there drawbacks to these methods? What academic, expanded core curriculum, and transition goals support use of digital workflow?

Roles of student, TVI, teacher, parents, paraprofessional:
When considering student's role, prioritize student's timely access to curriculum and delivery of accessible materials at the same time as classmates.

Training and/or support needed (student, staff, classroom teacher):

Future Considerations and Recommendations for future IEP planning:
How does use of digital workflow fit into long-term planning for student's needs?

Tool reflects considerations found in Wisconsin Assistive Technology Initiative. (June 2009). *Assessing Students' Needs for Assistive Technology (ASNAT).* Retrieved September 2019 from www.wati.org.

APPENDIX 9.4: NEEDS ASSESSMENT TEMPLATE

Needs Assessment for Technology

Your Name

Student Info

Name (pseudonym):
Age at time of assessment:
Grade:
Classroom placement:

Background Information

Student Sensory Learning Channels

Primary learning channel

Tasks the student can do efficiently using this sense:

-

Tasks with limited success using this sense:

-

Secondary learning channel

Tasks the student can do efficiently using this sense:

-

Tasks with limited success using this sense:

-

Tertiary learning channel

Tasks the student can do efficiently using this sense:

-

Tasks with limited success using this sense:

-

Classroom, school, and community activities that the student currently requires assistance to engage in—and has the potential to be more independent.

Remember: you are not identifying present levels of performance

-

Types of (non-adapted) educational materials and instructional media that the student needs to access in various classes, labs, and electives

Language Arts

-

STEAM (Science, Technology, Engineering, Arts, Math)

-

Other

-

Technology Features That Would Benefit the Student

Remember: Use generic terms and avoid naming brands—each feature should match a sensory learning channel)

-

Potential constraints or challenges of implementing access technology in this student's environment

---

A Sample Completed Needs Assessment

Student: Summer Day

Background:

Summer Day is a 6th grade student with cerebral palsy, cognitive disability, speech impairment and a visual impairment due to optic nerve hypoplasia and nystagmus. Summer Day is able to walk independently in familiar environments when using a wall for trailing and physical support. Functional implications of his diagnosis include difficulty with balance, language delays, accessing print or pictures of less than 4", identifying colors, light sensitivity, ability to orient and navigate in unfamiliar environments independently, ability to identify objects, read and write. He attends a self-contained classroom for students with extensive support needs and is accessing curriculum at a 4 to 5-year-old level.

Sensory Learning Channels

Primary learning channel: Auditory

Tasks he can do well:

- Listens to simple directions from staff.
- Listens to audible books on tape.
- Identifies peers and staff by their voice.

- Alerts to the bell schedule.
- Socializes for leisure activity.
- Listens to music.
- Attends to calendar or simple small group activities.

Task with limited success:

- Listening to long stories or movies.
- Remembering and following multi-step instructions.
- Listening and comprehending abstract or complex instruction.
- Independently accessing curriculum on a variety of electronic devices.
- Playing with peers in a loud gym.
- Listening to instruction in large group settings.

Secondary learning channel: Vision

Task he can do well:

- Identify pedestrians in hallway and avoid them.
- Identify familiar people within 10 feet of him.
- Follow familiar routes within the school.
- Locates and folds towels.
- Locates food items in the refrigerator.
- Uses simple tools such as a vegetable peeler or a child's safety knife.
- Locates his desk and areas for instruction in the classroom.
- Locates everyday instructional tools and materials.
- Writes his name with 8 inch letters.
- Counts large images on a computer screen.

Task with limited success:

- Visually attending to movies.
- Attending to printed text or objects smaller than 4 inches.
- Visually tracking a ball or people moving quickly in the gym.
- Playing games on a computer or iPad.
- Reading picture menus.
- Locating small items that have been dropped or misplaced.
- Using a cursor to locate or move objects on a computer screen.
- Writing a sentence with a paper/pencil.
- Accessing computer based instruction due to small print.
- Attending to visual task lasting longer than 15 minutes.
- Looking at graphics in books.
- Gaining information from print based maps.
- Identifying street signs, traffic lights and walk/don't walk signs.
- Identifying and tracking moving vehicles.

- Detecting changes in walking surfaces.
- Visually identifying landmarks.

Tertiary learning channel: Tactile

Task he can do well:

- Hold a palm-sized object with one hand
- Grasp a handrail
- Use both hands to complete simple manual tasks such as folding towels, opening containers
- Cross midline when moving items across a table
- Clean up a workspace by putting objects in a container

Task with limited success:

- Placing paper clips on paper
- Using non-adapted standard scissors
- Sorting by texture
- Writing a sentence with a paper/pencil.

Classroom, school, and community activities that the student currently requires assistance to engage in—and has the potential to be more independent.

- Discriminating between ingredients in cooking activities (can of soup or fruit).
- Sorting, matching, or identifying objects by color.
- Identifying objects that are the same or different.
- Giving a written response to a question.
- Writing a story.
- Participating in computerized math and reading instruction.
- Reading a text and answering comprehension questions.
- Playing games during PE.
- Traveling independently using multiple routes in the school.
- Independently accessing his schedule and traveling to his related services classrooms.
- Following structured work schedules.
- Traveling in the grocery store, local restaurants, and local parks.
- Reading and selecting food items from a menu.
- Making a purchase at a store or restaurant.
- Planning and recommending activities to attend in the community.

Types of non-adapted educational materials and instructional media that the student needs to access in various classes, labs, and electives

Literacy

- Books—text and graphic novels
- Classroom calendar

- Worksheets
- Vocabulary sheets

Numeracy

- Worksheets
- Computer-based learning programs
- Flashcards

Other

- Menus
- Recipes cards
- Work schedules
- Cans of food
- Computer games
- Movies

Technology Features That Would Benefit the Student (list using generic terms):

- Text reader
- Voice to text
- Voice recognition software
- Computer/tablet with accessibility features
- Slant board
- Screen reader
- Computer based reading/ math software
- Magnification with screen reader
- Models of 2D and 3D geometric shapes
- Tactile-audio graphics
- GPS device
- Object identification device
- Color identification technology
- Sound localization tools
- Electronic organization
- Digital organizer for time management
- Low-tech organizers for materials
- Adaptive balls with audible beep for recreation and leisure
- Refer for additional assessment to explore adaptive mobility device for walking in unfamiliar environments

Potential constraints or challenges of implementing access technology in the student's environment

- 5 paraprofessionals work in the classroom with a weekly rotation for who supports which students
- The Wi-Fi network requires a guest login unless set up to connect otherwise
- Student devices are limited from downloading apps and extensions—need admin approval
- The classroom has very active students who tend to pick up items around the room and play
- Parents have smartphones but otherwise are not very tech savvy
- Classroom teacher is very overwhelmed with paperwork and has little patience to troubleshoot technology when issues arise

APPENDIX 9.5: ACCESS TECHNOLOGY TRIAL USE SUMMARY

Credit: (McDowell, 2019)

Access Technology Trial Use Summary for Students who are Blind or Visually Impaired

Student Name:		
School:	Age:	Grade:
District:	Date Completed:	
Persons Completing Summary:		

Student's accommodations and use of low, medium and high-tech devices:

Information from Learning Media Assessment (LMA) and Functional Vision Assessment (FVA) including need for visual, tactile and auditory media, preferred print/symbol size, lighting or positioning needs, distance viewing information:

Type of technology to trial and environmental considerations. How would technology facilitate participation and access to classroom curriculum? What tasks and activities could be completed with increased independence and/or efficiency given use of technology?

Summary developed from Wisconsin Assistive Technology Initiative. (June 2009). *Assessing Students' Needs for Assistive Technology (ASNAT)*. Retrieved September 2019 from www.wati.org.

Task/s Being Addressed During Trial:

Criteria for Success:

Observation Notes:

Date	Tasks observed	Criteria met?	Comments (e.g. advantages, disadvantages, preferences, performance)

Future considerations. Does the use of this technology fit into long-term planning for student's needs? Use of specific device should be considered within larger access technology assessment. Are there other technology needs that should be considered?

Recommendations for IEP:

APPENDIX 9.6: ACCESSIBILITY TIP SHEET

Accessibility Tip Sheet

Compiled by Yue-Ting Siu, TVI/COMS, PhD., 2019

Classroom Best Practices

- Using Clear Descriptive Language, adapted from Classroom Collaboration, Laurie Hudson: http://www.pathstoliteracy.org/this-that-there
- How to Give an Accessible Presentation: https://youtu.be/9n9KacDbpzw
- BRCOE A11Y Hub
  - https://onlinelearning.berkeley.edu/courses/433559
- Introduction to Course Accessibility, 6 free online modules that cover aspects of accessible course design. Includes vignettes of user experiences from individuals with disabilities
  - https://bcourses.berkeley.edu/courses/1456326
- Designing for Accessibility with *POUR*, National Center on Accessible Educational Materials (AEM)
  - http://aem.cast.org/creating/designing-for-accessibility-pour.html

Documents Accessibility

- Creating Accessible MS Word Files
  - How to format headings in MS Word: https://youtu.be/vWoDq0S8Jsc
  - Written tutorial: http://webaim.org/techniques/word/
  - Checklist for MS Word Accessibility: http://www.hhs.gov/web/508/accessiblefiles/checklistword.html
  - How do I know if a document is accessible? https://youtu.be/lzLTs9Anw90
- Using Google Docs Headings: https://youtu.be/-DzoX21OExA
- How to Create a Self-Described Link (Turn Text into a Clickable Link): https://youtu.be/P4s3GZnE7tU
- Converting Documents to PDFs
  http://webaim.org/techniques/acrobat/converting
  - Checklist for PDF Accessibility
    http://www.hhs.gov/web/508/accessiblefiles/checklistpdf.html
- Creating Accessible MS Powerpoint Presentations http://webaim.org/techniques/powerpoint/
  - Checklist for MS Powerpoint Accessibility
    http://www.hhs.gov/web/508/accessiblefiles/checklistppt.html
- Checklist for MS Excel Spreadsheet Accessibility
  http://www.hhs.gov/web/508/accessiblefiles/checklistexcel.html
- Misc. resources: http://www.sjsu.edu/cfd/teaching-learning/accessibility/accessible-documents/

Multimedia Accessibility

Web Accessibility

- World Wide Web Consortium (W3C), Web Content Accessibility Guidelines: http://www.w3.org/TR/WCAG20
- WebAIM (Web Accessibility In Mind): http://webaim.org

Image Description

- Image Description Guidelines including STEM images: http://diagramcenter.org/table-of-contents-2.html
- Alternative Text on the Web: http://webaim.org/techniques/alttext
- Image Accessibility Considerations: http://webaim.org/techniques/images
- Image descriptions on Twitter
  - https://support.twitter.com/articles/20174660

Video Description

- Description tutorials: http://www.youtube.com/playlist?list=PLNJrbI_nyy9uzywoJfyDRoeKA1SaIEFJ7
- YouDescribe - A free service that allows anyone to describe a YouTube video. Videos can be played back with description by blind viewers and others who benefit from description (such as English Language Learners). http://www.youdescribe.org
  - Tutorial: http://youtu.be/c-GKbGCzeEc
- DisneyAnywhere app provides description for selected Pixar movies: https://www.disneymoviesanywhere.com/ - 14484

Performing Arts with Audio Description

- http://www.acb.org/adp/theatres.html - CA

3D Printing for Accessibility

- Introductory webinar: http://youtu.be/-0TSvNFf8Xw
- 3D Printed teaching models: https://www.perkinselearning.org/technology/blog/3d-printed-teaching-models
- 3D Printer Resources: https://www.perkinselearning.org/technology/posts/3d-printer-resources
- 3D Printed Educational Models Google group for requesting 3D model designs: https://groups.google.com/forum/#!forum/3dp_edu_models

Universal Design

- CAST (Center for Applied Special Technology)—National Center on Universal Design for Learning http://www.cast.org/udl
- ISTE (International Society for Technology in Education) https://www.iste.org

Miscellaneous

- Legal Updates Regarding Digital Accessibility: Lainey Feingold, www.lflegal.com
- Collection of TVI candidates' video demos of digital workflows and basic accessibility testing mainstream apps: SFSU VI Program Facebook page https://www.facebook.com/viprogramsfsu
- Apple Accessibility troubleshooting, questions, bug reports: AppleVis website
- Google Accessibility mailing list for troubleshooting, questions, bug reports: accessible@google-groups.com

APPENDIX 9.7: AT RECOMMENDATIONS CHECKLIST

Assistive Technology Recommendations Checklist

Name: _____

Date(s) of Evaluation: _____

Based on the results of the assistive technology evaluation, the following recommendations are made regarding assistive technology to support this individual's educational, employment and personal objectives.

Section I: Accessing Print Information

People with visual impairments will use a combination of tools and strategies to access printed information. Some will be appropriate for short reading passages and others will be necessary for longer assignments.

A. Accessing Print Information Visually

Check all that apply.

☐ Student/client should use regular print materials with optical devices.
- ☐ prescribed eyeglasses/contact lenses
- ☐ prescribed hand held magnifier
  Type: _____ _____ power ☐ illuminated
- ☐ prescribed stand magnifier
  Type: _____ _____ power ☐ illuminated
- ☐ prescribed hand held telescope
  Type: _____ _____ power
- ☐ prescribed spectacle mounted telescope
  Type: _____ _____ power
- ☐ other optical devices recommended in Clinical Low Vision Evaluation
  Specify: _____

☐ Student/client should use materials written with felt tip pen on regular blue lined notebook paper.

☐ Student/client should use materials written with felt tip pen on bold lined paper.

☐ Student/client should use materials written with felt tip pen on unlined paper.

☐ Student/client should use regular print materials enlarged on a photocopying machine.
Specify: _____ times at _____ % enlargement.

☐ Student/client should use large print books.

☐ Student/client should use regular print materials scanned into a computer, edited, and printed in _____ point print in the _____ font.

☐ When possible, student/client should be provided with overhead lighting:
- ☐ from an incandescent bulb.
- ☐ from a fluorescent bulb.
- ☐ from a halogen bulb.

- ☐ from an LED bulb.
- ☐ adjusted with a dimmer switch.

☐ When possible, student/client should be provided with window lighting adjusted with:

- ☐ blinds
- ☐ shades
- ☐ other. Specify: _____

☐ When possible, student/client should be provided with additional lighting from:

- ☐ desk lamp
  - ☐ incandescent
  - ☐ fluorescent
  - ☐ halogen.
  - ☐ LED.
- ☐ floor lamp
  - ☐ incandescent
  - ☐ fluorescent
  - ☐ halogen.
  - ☐ LED

☐ Student/client should use a book/reading stand:

- ☐ braille bookstand
- ☐ desktop model
- ☐ portable model
- ☐ floor model.

☐ Student/client should use regular print materials with a video magnifier.

Specify type:

- ☐ desktop model
- ☐ flex arm camera model
- ☐ portable model
- ☐ video magnifier with (OCR) and (TTS) software
- ☐ Specify essential features: _____

Comments: _____

B. Accessing Print Information Tactilely

Check all that apply.

☐ Student/client should use materials in braille.

☐ Student/client should use a bookstand to facilitate braille reading.

☐ Student/client should use an electronic/refreshable braille display to access printed and electronic information.

☐ Student/client should be provided opportunities to use tactile graphics created by various production techniques and in a variety of media including real objects, models, collage, tooling

and stenciling, thermoform, capsule paper and fuser, computer generated and commercially produced.

☐ Student/client should use tactile graphics to access maps, charts, diagrams, etc.

Comments: _____

C. Accessing Print Information Auditorily

Check all that apply.

☐ Student/client should use a live reader for accessing certain materials:
Specify: _____

☐ Student/client should use recorded materials for accessing some printed information.
Specify: _____

☐ Student/client should use eBooks for accessing some printed information.
Specify: _____

☐ Student/client should use a stand-alone scan & read system.

☐ Student/client should use a computer based scan & read system.

☐ Student/client should use a tablet based scan & read system.

☐ Student/client should use a smartphone based scan & read system.

Comments: _____

D. Accessing Information Displayed for Distance Viewing

Check all that apply.

☐ Student/client should be provided an accessible copy of information presented to groups on chalk/white boards, overhead projectors, computer projection systems, etc.

☐ Student/client should use a hand-held telescope for accessing chalk/white boards, overhead projectors, computer projection systems, etc.

☐ Student/client should use a video magnifier with distance viewing capabilities for accessing chalk/white boards, overhead projectors, computer projection systems, etc.

☐ Student/client should use a document camera with distance viewing capabilities for accessing chalk/white boards, overhead projectors, computer projection systems, etc.

☐ Student/client should use an electronic whiteboard connected to an accessible computer.

☐ Student/client should be provided audio described videos when available.

☐ Student/client should be provided a separate _____-inch monitor for viewing DVDs, movies, and other video presentations.

Comments: _____

Section II: Accessing Electronic Information

A. Computer Access—Output Devices

1. Visual

Check all that apply.

☐ Student/client should use a standard computer monitor
Optimal size: _____

☐ Student/client should use standard computer monitor w/ fully articulated monitor arm

☐ Student/client should use display properties settings in computer operating system (OS):
Specify _____

☐ Student/client should use accessibility options in computer (OS):

☐ Student/client should use OS screen magnification program
☐ Mac Zoom ☐ Microsoft Magnifier ☐ Chrome Zoom

☐ Student/client should use a dedicated screen magnification program.
Specify essential features: _____

Comments: _____

2. Tactile

☐ Student/client should use a refreshable braille display.
Specify essential features: _____

Comments: _____

3. Auditory

Check all that apply.

☐ Student/client should use OS screen reading program
☐ Mac VoiceOver ☐ Microsoft Narrator ☐ ChromeVox

☐ Student/client should use a dedicated screen reading program.
Specify essential features: _____

Comments: _____

_____

B. Computer Access—Input Devices

1. Keyboard Use

Check all that apply.

☐ Student/client should use a standard keyboard.

☐ Student/client should use a standard keyboard with
☐ large print labels, light text on dark background.
☐ large print labels, dark text on light background.
☐ braille labels.

☐ Student/client should use a standard keyboard with locator dots to develop/improve keyboarding skills.

☐ Student/client should receive individual keyboarding instruction.

☐ Student/client should use a word processor and OS screen reading program for keyboarding instruction.

☐ Student/client should use a talking typing program for keyboarding practice and reinforcement of skills taught by instructor.

☐ Student/client should use a standard keyboard with accessibility options.

- ☐ StickyKeys
- ☐ FilterKeys
- ☐ ToggleKeys
- ☐ Other. Specify: _____

☐ Student/client should use a standard keyboard with hardware adaptations.

Specify: _____

☐ Student/client should use an alternative keyboard. Specify: _____

Comments: _____

_____

2. Pointing Devices and Other Tools

Check all that apply.

☐ Student/client should use a standard pointing device like a mouse or trackball.

☐ Student/client should use an alternative pointing device.

Specify: _____

☐ Student/client should have access to a copy holder that allows printed materials to be positioned at a comfortable viewing distance.

Comments: _____

_____

C. Accessing Other Electronic Information

1. Specialized Scanning Systems

☐ Student/client should have access to a scan & read system.
Specify essential feature: _____

2. Electronic Notetaker

☐ Student/client should have access to an electronic notetaker with the following features:

- ☐ QWERTY keyboard
- ☐ braille keyboard
- ☐ synthesized speech output
- ☐ refreshable braille display

Specify essential features: _____

3. Other Electronic Tools

- ☐ Student/client should use a _____ basic or _____ scientific large print calculator with numerals at _____-inches tall..
- ☐ Student/client should use a _____ basic or _____ scientific talking calculator.
- ☐ Student/client should use a computer-based calculator program/app with
  - ☐ screen magnification software,
  - ☐ screen reading software.
- ☐ Student/client should use a dictionary/thesaurus program/app on a computer with
  - ☐ screen magnification software,
  - ☐ screen reading software.
- ☐ Student/client should use a smart home device

Comments: _____

Section III: Communicating Through Writing

Producing Written Communication

People with visual impairments will use a combination of tools and strategies to produce written communication. Some will be appropriate for short writing assignments and others will be necessary for longer assignments.

Check all that apply.

- ☐ Student/client should use pen/pencil and paper
  - ☐ for short writing assignments.
  - ☐ for most writing assignments.
- ☐ Student/client should use felt tip pen or another bold marker.
- ☐ Student/client should use _____ bold line, _____ raised line, notebook paper.
- ☐ Student/client should use _____ bold line, _____ raised line, graph paper for math.
- ☐ Student/client should use crayons and a screen board for beginning handwriting and learning to write signature.
- ☐ Student/client should use a signature guide for signing name.
- ☐ Student/client should use a whiteboard with erasable markers.
- ☐ Student/client should use a computer with a math writing/editing program.
- ☐ Student/client should use a computer with a scanner and imaging software to complete forms.
- ☐ Student/client should use a laptop, or a tablet computer with an external keyboard, and word processing software for note taking.
- ☐ Student/client should use an electronic notetaker for note taking and other short writing tasks.
- ☐ Student/client should use a digital recorder or app as a back-up note taking tool.
- ☐ Student/client should use an accessible computer with word processing software.
- ☐ Student/client should use manual braille writer.

☐ Student/client should use manual braille writer with extension keys.
☐ Student/client should use a unimanual braille writer.
☐ Student/client should use unimanual braille writer with extension keys.
☐ Student/client should use slate & stylus.
☐ Student/client should use an electronic braille writer (Mountbatten Brailler, Perkins SMART Brailler).
Specify features: _____

Comments: _____

Section IV: Additional Hardware and Software

Student/client should be provided with access to the following hardware & software;

☐ Macintosh computer system with
_____ GB memory _____ GB hard drive _____ USB ports ☐ CD/DVD drive
☐ Windows compatible computer system with
_____ GB memory _____ GB hard drive _____ USB ports ☐ CD/DVD drive
☐ Word processor
☐ Printer
☐ Internet access
☐ Flatbed Scanner
Other: _____

Equipment needed to produce materials for student/client in appropriate format.

☐ Mac or Windows compatible computer system
_____ GB memory _____ GB hard drive _____ USB ports ☐ CD/DVD drive
☐ Internet access
☐ Flatbed scanner ☐ OCR software
☐ Word processing software ☐ braille translating software
☐ Inkjet or laser printer ☐ braille embosser/printer
☐ Tactile graphics production equipment. Specify: _____

Additional comments/recommendations: _____

The recommendations made here may not all have to be implemented immediately. These suggestions are designed for a two- to three-year plan in which the student/client acquires certain skills and is then provided access to additional technologies that can facilitate his or her educational/employment program. During that time, new technologies are likely to become available that will enhance the individual's ability to accomplish tasks and maximize his or her potential. The specific devices recom-

mended may no longer be available, but the access that they provide will continue to be a need for this individual and the appropriate tools will still need to be made available.

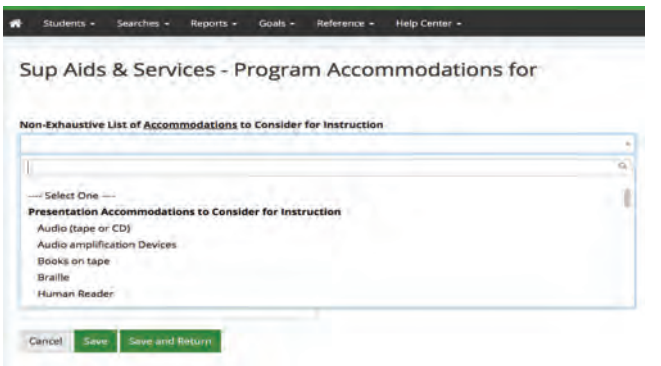
Assessment Completed by (*signature*)	Position
Assessment Completed by (*signature*)	Position
Assessment Completed by (*signature*)	Position
Assessment Completed by (*signature*)	Position

APPENDIX 9.8: IEP ACCOMMODATIONS TOOL

Credit: (McDowell, 2019)

Seis IEP Accommodations Tool for Students with Visual Impairments

Student: IEP Date:



This tool can be used to organize a student's IEP accommodations. Accommodations should be listed separately so that teachers receive a clear, user-friendly list. Goal is to be succinct yet thorough.

Due to outdated options and redundancies in pull-down options in Seis and need to write additional and more specific accommodations, drafting accommodation list before working in Seis can help streamline process.

Page 1 lists the ***pull-down menu options*** in Seis.
Page 2 and 3 list common accommodations for VI students that can be added by selecting ***Other*** for write-in field.
*This is a work in progress and is by no means exhaustive, update to include your commonly-used accommodations, preferred wording, and district expectations.

Services—Offer of FAPE

Sup Aids and Services—Program Accommodations
Non-Exhaustive List of Accommodations to Consider for Instruction

1. Presentation Accommodations to Consider for Instruction
   - ☐ Other
   - ☐ Audio (tape or CD)
   - ☐ Audio amplification devices
   - ☐ Books on tape
   - ☐ Braille
   - ☐ Check for understanding by having student restate or paraphrase information
   - ☐ Human reader
   - ☐ Large print materials
   - ☐ Magnification devices
   - ☐ Notes outlines and instructions
   - ☐ Obtain student's attention before speaking
   - ☐ Provide directions in a variety of modalities
   - ☐ Recorded books
   - ☐ Repeat/rephrase responses of other students
   - ☐ Screen reader
   - ☐ Tactile graphics
   - ☐ Talking materials
   - ☐ Videotapes (or DVDs) and descriptive video tapes
   - ☐ Visual cues

2. Response Accommodations to Consider for Instruction
   - ☐ Other
   - ☐ Abacus
   - ☐ Assistive technology
   - ☐ Braille Writer
   - ☐ Calculation devices
   - ☐ Graphic organizer

- ☐ Monitor test response
- ☐ Note Takers
- ☐ Responding in test booklet
- ☐ Scribe
- ☐ Speech-to-Text
- ☐ Spelling and grammar devices
- ☐ Tape recorder
- ☐ Visual organizers

3. Setting Accommodations to Consider for Instruction
   - ☐ Other
   - ☐ Change location to increase physical access or to use special equipment
   - ☐ Flexible seating to ensure auditory and visual access
   - ☐ Reduce background noise
   - ☐ Reduce distractions to other students
   - ☐ Reduce distractions to the student

4. Timing and Scheduling Accommodations to Consider for Instruction
   - ☐ Other
   - ☐ Change schedule or order of activities
   - ☐ Extended time
   - ☐ Multiple or frequent breaks

Other write-in Presentation Accommodations

- ☐ Large print materials 18–24 point font (1/8 to 3/16 inch high lower case letters)
- ☐ Large print materials 24–36 point font (3/16 to 1/4 inch high lower case letters)
- ☐ Magnification devices, electronic (video magnifier) and handheld (dome magnifier)
- ☐ Uncluttered, well-spaced worksheets
- ☐ Slant board and/or reading stand
- ☐ Use bold black or dark blue markers for writing on the board or on paper/whiteboard at student desk
- ☐ When projecting on board, increase contrast and zoom in to make text large and clear and target visual focus
- ☐ Narrate what is being written on the board and use specific language (e.g., say "write your name upper left-hand corner" rather than "write your name here" combined with pointing)
- ☐ Assistive technology device with Text-to-Speech (TTS)
- ☐ Accessible tablet device
- ☐ Large screen computer (15" or larger)
- ☐ Digital books (electronic text) including membership with Bookshare.org, Learning Ally
- ☐ Digital textbooks in NIMAS (National Instructional Materials Accessibility Standard) format
- ☐ Multimodal presentation of highlighted text with audio (narration or TTS)
- ☐ Preview curricular materials, check for background knowledge
- ☐ Braille including presentation on Refreshable Braille Display (computer, tablet, braille notetaker)
- ☐ Mask extraneous information on page
- ☐ Materials use bold colors, avoid muted or pastel colors
- ☐ Provide concrete experiences, expand activities with manipulatives, real objects and tactile materials
- ☐ Described and captioned media including access to services such as Described and Captioned Media Program (DCMP) and YouDescribe.org
- ☐ Braille transcript of closed captioning text
- ☐ Graphic organizers, sequence of steps outlined, other supports for focus
- ☐ Mirror or pair devices to provide view on student's device of what is projected in class

Other write-in Response Accommodations

- ☐ Dictation using assistive technology
- ☐ Dark line writing tools
- ☐ Dark line paper
- ☐ Braille device with visual display
- ☐ Word prediction when using assistive technology
- ☐ Reduce visual/writing work output if knowledge of concepts shown
- ☐ Allow for needed processing time, wait until repeating directions or adding more supportive prompts

Other write-in Setting Accommodations

- ☐ Avoid sources of glare
- ☐ Preferential seating: define where (e.g., front and to the right of classroom, student sees with left visual field)
- ☐ use of slant boards, reading stands and well-fitted furniture for stable positioning and to promote visual access
- ☐ Maintain clear pathways in classroom
- ☐ Wear hat with visor to reduce glare.
- ☐ Provide orientation to new environments with ample time for student to explore
- ☐ Encourage others to identify themselves when they start an interaction with student and say hello/goodbye when coming/going
- ☐ Say your name when greeting student, identify adults and peers near student, if needed, narrate non-verbal communication
- ☐ Narrate social environment, describe what peers are doing on the playground and help student locate friends
- ☐ Use specific environmental cues (e.g., say "by the table" rather than "over there" combined with pointing)
- ☐ Reduce visual distractions, provide clear work space
- ☐ Peer notetaker or partner
- ☐ Shade options for outdoor activities

Other write-in Timing and Scheduling Accommodations

- ☐ Use accessible schedule and preview schedule changes
- ☐ Break down large projects to support meeting benchmarks before due date
- ☐ Alternative to pen and paper planner such as Google Calendar or other digital productivity app or tool
- ☐ If possible schedule PE early in day to minimize sun exposure

* * *

Other Lists (accommodations repeated from above)

Low Vision Academic Students

- ☐ Large print materials (define range of size)
- ☐ Magnification devices, electronic (video magnifier) and handheld (dome magnifier)

- ☐ Slant board and/or reading stand
- ☐ Use bold black or dark blue markers for writing on the board or on paper/whiteboard at her desk
- ☐ When projecting on board, increase contrast and zoom in to increase size and target visual focus
- ☐ Narrate what is being written on the board and use specific language (e.g., say "write your name in the upper left-hand corner" rather than "write your name here" combined with pointing)
- ☐ Dark line writing tools
- ☐ Dark line paper

O&M

- ☐ Monocular telescope
- ☐ Wear hat with visor to reduce glare.
- ☐ Provide orientation to new environments with ample time for student to explore
- ☐ Maintain clear pathways in classroom
- ☐ If possible schedule PE early in day to minimize sun exposure
- ☐ Shade options for outdoor activities
- ☐ Narrate social environment, describe what peers are doing on the playground and help student locate friends

CVI

- ☐ Uncluttered, well-spaced worksheets
- ☐ Reduce visual distractions, provide clear work space
- ☐ Provide concrete experiences, expand activities with manipulatives, real objects and tactile materials
- ☐ Allow for needed processing time, wait until repeating directions or adding more supportive prompts

Students with LD/ADHD/Autism

- ☐ Use accessible schedule and preview schedule changes
- ☐ Break down large projects to support meeting benchmarks before due date
- ☐ Alternative to pen and paper planner such as Google Calendar or other digital productivity app or tool
- ☐ Word prediction when using assistive technology
- ☐ Reduce visual/writing work output if knowledge of concepts shown

Orthopedically Impaired

- ☐ Maintain clear pathways in classroom
- ☐ Use of slant boards, reading stands and well-fitted furniture for stable positioning and to promote visual access

Deaf/Hard of Hearing

- ☐ Braille transcript of closed captioning text

APPENDIX 10.3: COMPUTER-BASED ASSESSMENT PLANNING CHECKLIST

Sample planning checklist for computer-based testing in California

(Jessica McDowell, TVI/COMS, Marin County Office of Education, CA)

CAASPP Planning Checklist for students with Visual Impairments (CAASPP = California Assessment of Student Performance and Progress)
*all information in this document subject to change

Student: District:

School: Statewide Student Identifier (SSID):

Review: **California School for the Blind's SMARTER BALANCED STATEWIDE ASSESSMENT SITE overview, instruction, documents and videos** http://www.csb-cde.ca.gov/csb_smarter_balanced.html

Know these resources:

The California Assessment of Student Performance and Progress website:
http://www.caaspp.org

Smarter Balanced Assessment Consortium: Usability, Accessibility, and Accommodations Guidelines
https://portal.smarterbalanced.org/library/en/usability-accessibility-and-accommodations-guidelines.pdf

California Department of Education Matrix One: Universal Tools, Designated Supports, and Accommodations for the California Assessment of Student Performance and Progress for 2016–17
http://www.cde.ca.gov/ta/tg/ai/documents/caasppmatrix1.pdf

Long range planning . . .

- ☐ Research testing updates, find where most up to date info is
- ☐ For each student, the TVI must be the expert if there is no other technology specialist familiar with testing students with blindness or low vision. Don't expect general district special education tech support to know the nuances of testing for VI student.
- ☐ Student should be using all the technology and supports to access curricular tasks that you expect them to use during the test. Does student need updated technology assessment? Look at ways student will access on-line tests and new tools and technology expectations being implemented for classroom instruction and assessment.

The IEP before next test window . . .

- ☐ Review CAASPP Support and Accommodations for guidance and IEP planning
- ☐ Check to see what test/s student will be taking
- ☐ Decide the test location. If taken with the class, what computers will be used? Does student need an in-class alternative to a Chromebook (common class testing tool)? For instance, a desktop computer can be set up with the secure browser so student tests with class (need lead time to make sure that set up installed).
- ☐ Decide who will administer the test (if there is a reason why student needs an alternative setting, such as a braille student)

☐ Go to SEIS (or electronic IEP management site) Statewide Assessments page and update student's supports and accommodations

Early in school year . . .

☐ Contact CSMT (Clearinghouse for Specialized Materials and Technology) about test, will APH/ CSMT provide performance task (PT) materials in accessible format? Or, check on-line for Classroom activities and have accessible materials created.

☐ Find out dates for testing

- Summative assessments ***window*** (if you are administering test, start testing at beginning of testing window)
- Summative assessment date
- Interim assessments
- Practice test
- Training test (shorter and does not include performance tasks)

☐ Look at digital library (instructional resources), you need a CAASPP login

☐ Look up keyboard commands for test (teach students)

You must find out who 3 key people are . . .

1. Who is District Test Coordinator/LEA CAASPP Coordinator? They put information in for CAL-PADS (California Longitudinal Pupil Achievement Data System)—student must be coded as VI. Who will upload accommodations and designated supports in the Test Operations Management System (TOMS)?
2. Who is School Test Coordinator/CAASPP Test site Coordinator? Work with this person early so questions and needs are addressed beforehand.
3. Who is test administrator (teacher, resource or you)? If you will be administering test, you will need a code from coordinator, they should know who you are and what you will need.

Do practice testing or training tests . . .

☐ You can go on as guest to the Student Interface Practice and Training Tests (no secure browser needed) via Practice and Training Tests link on CAASPP website

☐ Get username and password from Site Coordinator

☐ Load secure browser on practice machine (may need IT support)

☐ Contact district regarding trainings (you may need to attend to administer test)

Month before test . . .

☐ Have you handled becoming test administrator (form signed?)

☐ How do you or aide get read aloud training? (3–5th)?

☐ Do you have accessible materials for Classroom activity? Check http://californiatac.org /administration/instructions/assignments/ to find out which activities school is doing.

☐ If student is taking test with class, has an in-class alternative to a Chromebook been set up and loaded with secure browser?

☐ Does student need to run Zoom text or other accessibility software during test? Do they know how to set accessibility preferences in general accessibility settings? For either one of these, permissive mode must be set in TOMS.

☐ Some tech departments set up a special login screen (students do not see computer desktop, they login to computer with something like test/123 and secure browser immediately comes

up—this could affect access general computer accessibility settings or could affect student's profile setting if they have login with preferences already set up). Permissive mode important—our students may need to use "regular" login rather than testing day login.

- ☐ For Print on Demand - Print on Demand is a Non-Embedded Accommodation and must be entered in TOMS (Must contact CalTAC for approval, at least 2 weeks before test).
- ☐ Decide how responses will be entered into the computer (by student or teacher). If you, then may need to sign CAASPP Test Security Affidavit ahead of time.
- ☐ Read Aloud Grades 3, 4, or 5 - District Test Coordinator must submit IAR (individualized aid request) for students who need the Read Aloud accommodation (see what info is needed below). This invalidates test scores but scores will be sent. Tell the person student grade, SSID, why IAR needed, which tests, and to check support for VI/blindness http://CAASPP.org/administration/forms/

Week before test . . .

- ☐ Confirm with Test Coordinator—if you are administering, how will you get passwords on test day?
- ☐ Confirm how to communicate with on-site tech person and on-site and district test coordinator on testing day (in case you run into problems)

Check IEP management system for:

Streamlined interface (embedded)—Presents test in an alternate, simplified format in which the items are displayed below the stimuli. Not tablet compatible. ***Have it marked for JAWS and braille users.*** TA may be able to change it if accommodation is set in embedded accommodations. *Look at performance task also with student—PT may have more charts, diagrams and pictures to reference and having side-by-side beneficial (non-streamlined). Currently streamlined affects whole test so choose student's preference based on review of all tests.

Permissive Mode (embedded)—*enable* for students who need accessibility software (screen reader, magnifier). Without permissive mode you can't use accessibility software or the accessibility features built into computer. Default is disabled. Need to have it enabled for our students. Make sure no special computer login has been set by tech department that overrides access to accessibility settings.

Masking (embedded)—blocking out content that is not an immediate need.

Print size (embedded)—sets student's print size accommodation and is the print size the student should have when starting the test. It becomes default for all items. (default is 14 point). 1.5, 1.75, 2.5, 3 times.

Read aloud (non-embedded)

Grades 3, 4 or 5 - must submit IAR for individualized aide request

Print on demand

The district person HAS to get permission from CalTAC

CAASP coordinator (district needs to contact CalTAC and CDE and it must be approved by both before testing begins).

Magnification (non-embedded) The size of specific areas of the screen (e. g., text, tables, navigation buttons) may be adjusted by the student with an assistive technology device.
Other options:

Separate setting (non-embedded) accommodation

Scribe (non-embedded) student dictates responses (scribe must be trained)

Noise buffers (non-embedded)

Color contrast (embedded) Printed in contrast is non-embedded

Color overlays (non-embedded) over paper test.

Multiplication table (non-embedded)

Calculator (talking) is non-embedded

Abacus non-embedded

Reference Materials

Testing acronyms

CAASPP	California Assessment of Student Performance and Progress
CALPADS	California Longitudinal Pupil Achievement Data System
CalTAC	California Technical Assistance Center
CDE	California Department of Education
ELA	English language arts/literacy
ET	extended time
ISAAP	Individual Student Assessment Accessibility Profile
LEA	local educational agency
PT	performance task
RLA	reading/language arts
SC CAASPP	Test Site Coordinator
SSID	Statewide Student Identifier
TA	Test Administrator
TOMS	Test Operations Management System
UAAG	Smarter Balanced Usability, Accessibility, and Accommodations Guidelines

LEA CAASPP Coordinators, contact the California Technical Assistance Center (CalTAC) using one of the following methods:

Mail:	ETS Systron Business Center 2731 Systron Drive Concord, CA 94518
Phone:	800-955-2954
Fax:	800-541-8455
Hours	Monday–Friday 7 a.m.–5 p.m. PT
E-mail:	caltac@ets.org

Other useful documents:

Keyboard Commands For Students

Google CAASPP keyboard commands for students