APPENDIX B

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 tactiley 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?
  □ Brand and operating system of mobile computing device (Smartphone, tablet): 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?
  □ Brand and operating system of stationary computing device (laptop, desktop): Yes □ No

- Compatibility of scanning apps with the student’s personal computing devices:
  □ Brand and operating system of mobile computing device (Smartphone, tablet): Yes □ No
  □ Brand and operating system of stationary computing device (laptop, desktop): Yes □ No

- 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

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 setup 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
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:
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 com-
  patibility 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  
  □ Foreign 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 C
Forms and Lists

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:

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<th>Without Prescription</th>
<th>With Prescription</th>
<th>With Low Vision Device</th>
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B. Near visual acuity

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Information from Learning Media Assessment
Primary learning channel: _____ visual _____ tactile _____ auditory
Secondary learning channel: _____ visual _____ tactile _____ auditory

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Tertiary learning channel (if applicable):  _____ 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:  _______________________________________________________

___________________________________________________________
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).
<table>
<thead>
<tr>
<th>A. Area and Instructional Task(s)</th>
<th>B. Standard Classroom Materials</th>
<th>C. Accommodations/ Modifications/ Strategies</th>
<th>D. Assistive Technology Solutions</th>
<th>E. Other Possible Solutions (Accommodations, Strategies, Assistive Technology Devices and/or Services)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ School □ Home/Community</td>
<td>If not independent, continue to C →</td>
<td>If not independent, continue to D →</td>
<td>If not independent, continue to E →</td>
<td></td>
</tr>
<tr>
<td>□ School □ Home/Community</td>
<td>If not independent, continue to C →</td>
<td>If not independent, continue to D →</td>
<td>If not independent, continue to E →</td>
<td></td>
</tr>
<tr>
<td>□ School □ Home/Community</td>
<td>If not independent, continue to C →</td>
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<td>□ School □ Home/Community</td>
<td>If not independent, continue to C →</td>
<td>If not independent, continue to D →</td>
<td>If not independent, continue to E →</td>
<td></td>
</tr>
</tbody>
</table>
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):

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<table>
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<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
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<td></td>
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</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>School:</th>
<th>Age:</th>
<th>Grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>District:</td>
<td>Date Completed:</td>
<td></td>
</tr>
<tr>
<td>Persons Completing Summary:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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?

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

<table>
<thead>
<tr>
<th>Student Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School:</td>
<td>Age:</td>
</tr>
<tr>
<td>District:</td>
<td>Date Completed:</td>
</tr>
<tr>
<td>Persons Completing Summary:</td>
<td></td>
</tr>
</tbody>
</table>

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?

---

Appendix C

Task/s Being Addressed During Trial:

Criteria for Success:

Observation Notes:

<table>
<thead>
<tr>
<th>Date</th>
<th>Tasks observed</th>
<th>Criteria met?</th>
<th>Comments (e.g. advantages, disadvantages, preferences, performance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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/
  - 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
- Creating Accessible MS Powerpoint Presentations http://webaim.org/techniques/powerpoint/
  - Checklist for MS Powerpoint Accessibility
- Checklist for MS Excel Spreadsheet Accessibility
- 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_nyy9uzywOjyDRoeKA1SaIEFJ7
- 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/-0TSvNF8Xw
- 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/3d_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: ____________________________________________

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 Brailer, Perkins SMART Brailer).

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.

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APPENDIX 9.8: IEP ACCOMMODATIONS TOOL

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
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

California Department of Education Matrix One: Universal Tools, Designated Supports, and Accommodations for the California Assessment of Student Performance and Progress for 2016–17

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 CALPADS (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:

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<th>ETS</th>
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<tr>
<td></td>
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<td></td>
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<td></td>
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<td>Phone:</td>
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<td>7 a.m.–5 p.m. PT</td>
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<td>E-mail:</td>
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Other useful documents:
Keyboard Commands For Students
Google CAASPP keyboard commands for students