Creating Accessible Virtual Learning Environments for Students With Disabilities

When thinking about making learning materials accessible for students with disabilities in a virtual learning environment, it is important to start with the tools already in use on existing learning tools and platforms. Then, once the gaps and needs are identified, new materials can be planned for and created.

In this guide, you will find:
- **Quick tips** for using tools likely available to students
- **Guidance** for creating accessible content for diverse learners
- **Resources** for additional learning

Step 1: Start with Tools Already Available

Leverage what is built into the technology available to students. Minimize the introduction of new technology and digital materials to ensure continuity and avoid barriers with interoperability.

▸ **Educator Tip:** Teach, model and use reference guides for student and staff device accessibility:
- [Quick Guide for Chromebooks](#)
- [Apple Accessibility Site](#)

▸ **Educator Tip:** Try changing accessibility features, including:
- Display options: fonts, text size, colors, background
  - Ex: Enlarged font, reverse contrast, use dyslexic font for word processing
- Text-to-speech
  - Ex: Google chrome screen reader
- Speech-to-text / dictation
  - Ex: Google voice typing, Dragon Dictation
- Captioning options on videos
  - Ex: Teach students to look for the CC icon on videos to view with captions

▸ **Technology Tip:** There are captioning capabilities in these programs:
- Zoom - Closed captioning allows you or another meeting attendee, assigned by the host, to add closed captioning in a meeting. Learn more about [Closed captioning in Zoom](#).
- Google Slides - You can enable the live captioning feature within Google Slides. If you share your screen using Google Slides, your voice will be captured and live captions will appear. See [Present Slides with Captions](#) (via Google Drive support) for more information.

Step 2: Create Accessible Content

If you are producing content that is accessible to students, it is important to keep in mind the Web Content Accessibility Guidelines (a technical guide). The guidelines have been simplified by the National Center for Accessible Educational Materials (AEM), into the acronym **POUR**: **p**erceivable, **o**perable, **u**nderstandable, **r**obust.

PERCEIVABLE: Learners can see and hear content
- ❏ Add alternative text for pictures and graphics (non-text content has a text alternative with a description for use with screen readers and other tools)
- ❏ Close caption videos or provide transcripts (for video or audio recordings)
- ❏ Provide sufficient color contrast (between text and background)
- ❏ Ensure content does not rely on color alone (if you have a direction, that depends on color, add text, ie. clicking a green button to go forward, would also have the word forward next to or on the green button)

OPERABLE: Learners can interact with your content with a variety of tools
- ❏ Provide a clear structure with properly marked up headings (heading clearly states the context, ie. form asks for name in two fields, each field is labeled, "first name", "last name")
- ❏ Create descriptive links that make sense out of context (Use text to describe the link, when multiple versions are available of a document to download, include the type of document in the link, ie. "Article Name, PDF" or "Article Name, Html")
- ❏ Provide sufficient time for interaction and response (allow time limit to be turned off, give real time exceptions for time limits)
- ❏ Avoid content that can trigger seizures (flashing is content that can cause a seizure, if it is more than 3 per second and large and bright enough)

UNDERSTANDABLE: Learners can understand and enjoy a predictable experience
- ❏ Provide clear directions and models (provide guidelines for what is requested, ie. when date is requested, listing the format requested in or next to the field)
- ❏ Follow conventions to ensure predictable and consistent experience (components within a set of webpages has the same functionality and are identified consistently)
- ❏ Use plain language (include definition links for unusual words, provide explanations of abbreviations upon first appearance)
- ❏ Indicate the language of content (Identify the main content language when multiple languages are used, if a phrase is in a different language, identify that markup language)

ROBUST: Content works well with current and future technologies
- ❏ Add metadata (one or more pieces of descriptive information about data) to make content easier to find and use
- ❏ Perform an accessibility check (use accessibility tools within software to determine if the document is accessible using the criterion listed above and is usable with assistive technology)
- ❏ Perform basic assistive technology testing (ensure compatibility with tools such as screen readers, screen magnifiers and speech recognition software)

Additional materials from AEM related to making your materials perceivable, operable, understandable, and robust can be found below.

- [Getting Started with Document Accessibility](#)
- [Getting Started with Presentation Accessibility](#)

3: Check for Accessibility

Once you have produced content to be distributed to students online, you should perform an accessibility check. Many document creation tools have built-in accessibility checkers to help look for items in your document that meet the **POUR** guidelines from above.

- [Microsoft Built-In Accessibility Checker](#) - Step by step guide on checking the accessibility of a document.
- [Google Accessibility Check](#) - Google Suite has an add on that can be added to check the accessibility or documents.

Additional Resources

[AEM Center Resources for Access and Distance Education](#) houses categorial resources for everything from policy updates to learning tools and exemplars for accessibility for students.

Disabilities, Opportunities, Internetworking, and Technology has put together [20 Tips for Teaching an Accessible Online Course](#), including guidelines for creating online coursework.

[Equal Access: Universal Design of Instruction](#) is a checklist for creating a course that fits within the Universal Design of Instruction framework. ([PDF version](#))

Accessible Software and Digital Products from the [Center for Online Learning and Students with Disabilities](#) reviews software and digital products and their producers and publishers for readily discoverable and publicly available information about product accessibility.

Technical assistance being offered by AEM in Four High-Leverage Practices:
Focusing on one per week with a Monday afternoon (3pm EST) webinar and then Tues/Thurs office hours (Tues 10 - 11:30 EST, Thurs 4:00 - 5:30 EST)

1. Week of 3/30: Personalizing the Reading Experience
2. Week of 4/6: Creating high quality and accessible video
3. Week of 4/13: Creating accessible documents and slide decks
4. Week of 4/20: Making math notation accessible

[CART](#) (Communication Access Realtime Translation) is a service for a fee in which a certified CART provider listens to speech and instantaneously translates all the speech to text

Amara is an award-winning subtitle editor and enterprise offering--enables you to caption and subtitle any video for free; for larger subtitling projects, the platform makes it easy to manage teams of translators). They are offering free Amara-Plus accounts to K-12 schools through April.

Final Word

When creating accessible content for use in a virtual setting, educators can choose from a variety of tools. We recommend: (1) starting with tools that are already available, (2) following AEM's **POUR** guidelines, and (3) double-checking content for accessibility, using built-in tools such as Microsoft and Google Accessibility Check.

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