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**MARYLAND STATE DEPARTMENT OF EDUCATION**  
**Division of Early Intervention and Special Education Services**  
**IMPLEMENTATION BEST PRACTICES & CONSIDERATIONS**

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## **TIPs for Classroom Teachers to Make Content Accessible for All Students**

*By the Maryland State Steering Committee for Programs Serving Students who are Blind and Visually Impaired and the Maryland IMAGE Center Bridges Transition Helpdesk*

The transition to virtual learning has made educators problem solvers and has created unique opportunities to engage students. Educators have learned to effectively use new platforms for instruction and to change the way they create and distribute educational materials to students. All students need to be able to access materials, but sometimes these materials are not accessible. Inaccessibility disproportionately impacts students with disabilities, including blind and low vision students. When educational materials are not accessible, they fail to serve the educational purposes for which they were created.

### **Accessible Educational Materials (AEM)**

Accessible Educational Materials (AEM) are those that can be used efficiently, effectively, and sustainably with technology and assistive technology (screen magnification, screen reader software and switches among others), and meet Web Content Accessibility Standards (WCAG) 2.1 Level AA. Accessibility addresses discriminatory aspects related to equivalent user experience for people with disabilities. Web accessibility means that people with disabilities can equally perceive, understand, navigate, and interact with websites and tools. It also means that they can contribute equally without barriers.

### **Why should educational materials always be accessible?**

**Access to education:** If students have to struggle to perceive, operate and understand instruction, the amount of attention and cognitive energy they have available to learn the content is reduced.

Additionally, students who do not consistently receive accessible educational materials are more likely to disengage from the learning process altogether, even if accessible materials are provided some of the time. By taking measures to improve overall accessibility for all, educators will ensure that students have the materials they need to meaningfully participate in instruction in any learning

format, whether online, hybrid, or in person. One of the advantages of accessible design is that it increases usability and impacts everyone making all learning tools easy to use by all. In Maryland, the Code of Maryland Regulations (COMAR) contains clear provisions on the purchase and use of accessible teaching and learning materials as well as its use. COMAR defines “accessible” as “fully and equally accessible for independent use by individuals with disabilities to online course content, materials, and features” and provides that only “... courses and digital learning resources that are accessible and meet the technology standards...” may be approved by the Department of Education. COMAR 13A.06.05 around the Purchase and Use of Accessible Teaching and Learning Materials adopted Web Content Accessibility Guidelines (WCAG) 2.1 Level AA. It states that each local board of education shall annually train special education directors, principals, and other purchase specialists on the policies and procedures for purchasing and using accessible teaching and learning materials and comply with WCAG 2.1 Level AA (June 5, 2018).

On the federal level, both Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act require that schools provide disabled individuals with materials and services that are as effective as those provided to nondisabled individuals. Additionally, Section 508 of the Rehabilitation Act requires all executive branch government information be accessible to disabled users, and public schools are subject to this law. It incorporates by reference the WCAG 2.0 Level AA Success Criteria and applies the WCAG 2.0 Level AA success criteria and conformance requirements to both web and non-web electronic content. All students need to be able to use educational materials in order to benefit from educational services. This applies to procurement, development, and maintenance of electronic and information technology.

### **Creating Accessible Educational Materials (AEM)**

Creating Accessible Educational Materials (including Word, PowerPoint etc.) from the beginning ensures that all students can use tools and assistive technology to access materials. WCAG guidelines lay out specific principles to follow to ensure accessibility. They are described as POUR (Perceivable, Operable, Understandable, and Robust). Below are the strategies that can easily be incorporated into practice.

### **General Accessibility Guidelines**

1. Font characteristics (size, color, bolding, italics, underlining, etc.) are not easily accessible to users of screen reading software. Do not use them to convey meaning
  - a. Color alone cannot be used as the sole method of conveying content or distinguishing visual elements
2. Identify document language and/or language of parts, when a second language is used, throughout the digital resources to ensure that the assistive technology interprets the language properly
  - a. Identifying the document language and setting it as default makes it easier to read when using assistive technology. Learn how to change the document language here.
3. Add alt text to all Non-Text Content
  - a. Learn how to make images accessible with alt text here
  - b. Learn how to make shapes and “SmartArt” graphics accessible with alt text here
  - c. Learn how to make charts accessible with alt text here

- d. Sometimes alt text is generated automatically. [Learn how to check and edit automatically generated alt text here](#)
- e. Decorative images are defined as images that do not convey content or contain content that is already conveyed in text. [Learn how to mark images as decorative here](#)
- f. Complex Images: An equivalent alternative to complex images should be provided in context or on a separate link. An example would be an image of data chart with an explanation of the information being provided. [Understanding Success Criterion 1.1.1 | Understanding WCAG 2.0 \(w3.org\)](#)

## **Document Accessibility**

Creating Word documents that are accessible from the beginning should be the goal. Here are some suggestions to make documents accessible.

1. Headings: Make sure titles, headings and normal text are labeled as such, and not just larger or bolder. Headings create an outline for the digital resource and should have at least one heading 1 (<H1>) per page. Headings should not be skipped, such as <H2> to <H4>. [Learn how to make headings in Word accessible here](#)
2. Make ordered and unordered lists correctly: Use the built-in tools for creating ordered lists (using numbers or letters) and unordered lists (using bullets, check marks, or other symbols); do not simply tab over. [Learn how to make bulleted and ordered lists in Word correctly here](#)
3. Use meaningful hyperlinks: Include meaningful information in the hyperlink, the purpose of each link should be determined from the text link alone. For example, do not have a hyperlink with only on the word “here.” Instead, describe where it leads, such as “find out more about education resources here.” [Learn how to create accessible links in Word here](#)
4. Use tables wisely: Consider if the information can be expressed better without a table. Tables should be used for tabular data and require header rows or columns. Data captions and summaries should be used where appropriate. Tables should avoid merged and split cells. Tables can be inaccessible and are hard to read. If a table is used, make sure that the same number of rows and columns are used throughout and that the headings are labeled. [Learn how to create accessible tables in Word here.](#)
5. Color Contrast: Make sure the color contrast is sufficient. Check the color contrast by using the [Color Contrast Checker](#) to ensure that the document complies with WCAG requirements
  - a. Text: Text and images of text should have a contrast ratio of 4.5:1
  - b. Large text (over 18 point or 14 point bold) should have a contrast ratio of at least 3:1
  - c. Non-Text: A contrast ratio of at least 3:1 for graphical objects
6. Use the Accessibility Checker in Microsoft Word: Microsoft Word has a built-in accessibility checker that will generate a list of what to fix, why to fix it, and how to fix it. However, it will not catch all errors all of the time, so manual testing on documents is recommended. [Learn more about using the Accessibility Checker in Word.](#)
  - a. Google does not have a built-in accessibility checker; however, Grackle (Freemium Model) can be downloaded, to be used in a similar way
  - b. Manual testing includes
    - i. Screen Reader Compatibility
    - ii. Color Contrast
    - iii. Adequately Described Images
    - iv. Page Titles

v. Keyboard Navigation #NoMouseChallenge

### Slide Deck Accessibility

Slide Decks include Microsoft PowerPoint and Google Slides. Make sure presentations are accessible to all students with these tips below.

1. Use built in slide templates. They tend to be accessible from the beginning
  - a. [Universal Edits in Master Slides help maintain accessibility](#)
  - b. Consistent Layouts: Built-in slide layout templates are designed so the reading order is the same for people visually and non-visually. They also contain all the formatting, such as theme colors, fonts, and effects
  - c. Use unique slide titles and place a slide title on EVERY slide
  - d. If the slide title is not needed to appear on the slide, [learn how to HIDE the slide title here](#)
    - a. To fix a slide presentation that doesn't have slide titles, [learn how to restore titles onto slides here](#)
2. Make hyperlinks accessible and meaningful: [learn how to make accessible and meaningful hyperlinks here](#)
3. Use simple tables and provide table headings: [learn how to make PowerPoint tables headings here](#) (note: tables will require remediation if saved as a PDF)
4. Use the Accessibility Checker: it will highlight accessibility issues in the slide presentation. [Learn more about the PowerPoint Accessibility Checker here](#)
5. Set reading order of slide contents using the arrange tools to order the elements so that the screen reading software will read the contents of the slides in the correct order. [Learn how to fix problems with reading order here](#)

### Creating Accessible PDF's

PDF's are not easily accessible to people using screen readers. Provide word document versions if possible. The below tips will help make PDF's as accessible as they can be, but preferably use Word documents.

1. Use the Accessibility Checker to confirm that the Word or PowerPoint document is accessible
2. Save the document as a PDF
  - a. Do NOT print it as a PDF
  - b. Do NOT print it out and scan it back in
3. Run the accessibility checker in Adobe Pro to ensure compliance common issues are as follows:
  - a. Missing Language
  - b. Missing Title
  - c. Table formatting concerns
4. Note: When creating a PowerPoint on a Mac, saving it as a PDF will not make it accessible, but this process will work when saving it as a PDF on a Windows computer

### Platform accessibility

Creating accessible content is not sufficient if the platforms being used are not accessible. If a system is using an inaccessible platform, alternative access that provides equal levels of functionality and efficiency needs to be given to students with disabilities in a timely fashion.

Before purchasing a digital resource, request that the vendor provide an Accessibility Conformance Report (ACR) or the [Voluntary Product Accessibility Template \(VPAT\)](#) for the digital resource. The VPAT is a template that can be completed either in house or by a third party to account for a digital resource's current state of accessibility. The ACR is the completed VPAT with additional details. Even after evaluating the vendors using VPAT, it is still best to ask the Vendor to demonstrate the product's accessibility and provide examples of accessible aspects with the digital resource. Testing the digital resource to ensure that it meets accessibility standards, is highly recommended.

#### **VPAT Resources:**

- [ITI VPAT Training Modules](#)

#### **Working with TVIs (Teachers of students with blindness/low vision/visual impairment)**

A TVI is a resource for staff and students. When working with a TVI on a consult basis, remember:

- COMAR makes it clear that the responsibility of accessibility falls on school systems and teachers. TVI's are there to support in the learning process
- By making educational materials accessible from the start (for all students), one will be a more effective teacher and their job will be easier in the long run
- Communication and collaboration are key. As soon as possible, let the TVI know of changes in curriculum, lessons, and platforms. Doing so:
  - Allows the TVI to assess the accessibility of new items
  - Allows for collaboration with the TVI to ensure that the educational content is accessible

#### **Resources**

- Within Maryland
  - [Bridges Helpdesk](#): The Bridges Helpdesk is a free resource to answer any blindness/low vision related question, especially those around transition aged students
  - Statewide Blind and Low Vision Specialist at MSDE
  - Maryland Instructional Resource Center (MIRC): Creates alternative formats of materials specific to blind students. Contact the local vision lead for the process within each county
- Online resources
  - [Creating accessible documents](#)
  - [Creating accessible PowerPoint presentations](#)
  - [WCAG 2.1 Guidelines](#)
  - [COMAR regulations: Title 13A State Board of Education](#)
  - [Section 504 of the Rehabilitation Act of 1973](#)
  - [Americans with Disabilities Act](#)
  - [US Access Board Section 508 Standards](#)
  - [Creating Accessible Document Section508.gov](#)

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