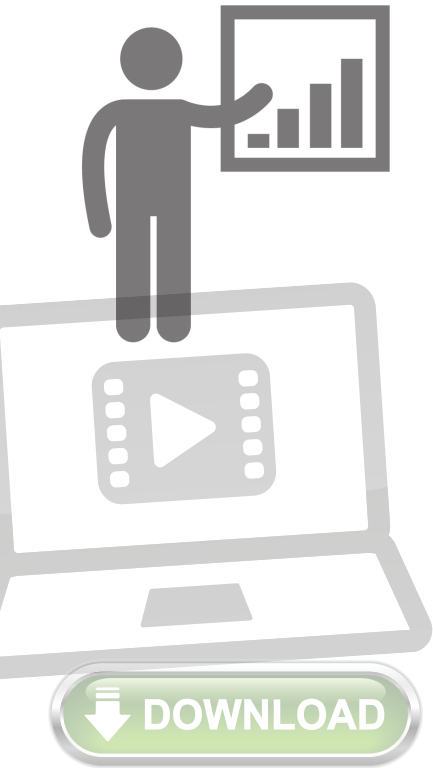# ies INSTITUTE OF EDUCATION SCIENCES

508 Compliance

Preparing Presentations, Excel Files, Websites, and Multimedia Products

WHY THIS GUIDE?

PowerPoint presentations, Excel documents, Web pages, and videos posted on federal websites must meet the requirements of the 1998 amendment to Section 508 of the Rehabilitation Act. Doing so ensures that these materials are accessible to a wide range of people with disabilities, including visual, auditory, sensory, and motor impairments. These individuals use assistive technology to help them understand electronic information—for example, screen readers and text-to-speech software interpret words on the page and translate them to a computerized voice that reads the information. Accessible products work hand in hand with assistive technology.

However, accessibility requirements are broad and lack step-by-step recommendations to walk you through the process. There is no "magic bullet" software that creates compliant files at the press of a button, so accessibility usually involves setting up files from the get-go in a structured and systematic way by using built-in features of the native software application. This is especially important with large, multi-author files, which may have complex production requirements and deadlines. For guidelines on setting up accessible templates, go to http://www.hhs.gov/web/508/accessiblefiles/index.html.

The goal of this guide is to offer tips and tools for those who have a basic understanding of 508 compliance to help ease the process and reduce headaches and delays.

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TIPS AND RESOURCES

In This Guide

Equivalent Content

Depending on the medium, it may be most cost-effective to create "equivalent content;" for example, equivalent content for a webinar might be a 508-compliant PDF that provides the same information.

The following sections provide tips and resources specific to presentations, Excel, websites, and multimedia products, including webinars and videos. In addition, detailed information and checklists on accessibility can be found at http://www2. ed.gov/web-guidance/accessibility-requirements.html. Although Word files are not covered in this document, related requirements can be found at the preceding link. Note that some in-depth procedures are likely to vary, depending on your individual production environment.

Presentations

For PowerPoint files, start with a template that is compliant. Your production staff can create a template in the desired format and test it to make sure it is compliant before sharing it with others who will be working on a presentation. They should use the program's built-in features and formatting—including predefined layouts, as well as list and page numbering commands—to make the compliance process easier. Add any alternative text (also called "alt text"; see page 7) to visuals after you convert the file to PDF. In addition:

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Do use default fonts such as Arial; minimum size is 11 points. Avoid bold, italics, and underlining.

Do use markup to keep row and headings associated with the right cells; don't merge data cells.

Do use the notes section for a transcript of what the speaker is saying, if needed. You can also use this section or an appendix to describe any complex images.

Do make sure any URLs or email addresses go to an active website when the user clicks on them.

Don't use tables with merged or split cells or multilevel headings, in order to ensure proper reading order.

Don't use animations and transitions.

Be aware that if you use Prezi presentation software, it will not generate accessible presentations automatically. And although Flash presentations can be made accessible with additional work, PowerPoint is a simpler platform for generating an accessible slide show with ease. Additional details on making PowerPoint files compliant, including checklists, can be found at http://www2.ed.gov/web-guidance/accessibility-requirements.html.

Excel

Excel files are usually posted in their native format* rather than as PDFs so that they can be updated by users. Start with a template that your production staff have made 508 compliant, especially if you are sharing a workbook with a group that will be updating the data, since multi-author files can be challenging to merge and make compliant in the absence of a shared, consistent template. Your production staff should use the program's built-in features and formatting—for example, for labeling

* Native format is the software application in which the file was created—in this case, Excel.

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column and row headers and creating charts—to ensure that the content makes sense when read by a screen reader. Add any needed alt text to visuals. In addition:

Do set up table shells in advance. Use consistent elements on multipage tables—that is, use the header command so that titles are consistent across pages and rows and headers are repeated.

Do make sure that tabs at the bottom of a worksheet describe the content (not Tab A, Tab B).

Do make sure that all contents are visible in page or print preview and that all links are correct and active.

Don't use blank and merged cells (cause problems with reading order) and text boxes (cause problems with screen reader).

Don't use floating controls written in Visual Basic—screen readers can't read them.

Information and checklists for making Excel documents accessible can be found at http://www2.ed.gov/web-guidance/accessibility-requirements.html.

Websites

On the World Wide Web, assistive technology reads the HTML code and gives the user a verbal translation of what is on screen. Screen readers use naturalized voices and alter tone and inflection according to HTML tags, so choose layout elements carefully. Keep in mind that navigation is slower with a screen reader. To help shorten reading time and speed navigation, minimize graphics and provide options for the screen reader to "skip" graphics and go to the main text on the page. In addition:

Do use HTML tags to identify information—not to format text. This ensures that screen readers can recognize text.

Do use HTML header tags to identify page sections and content hierarchy. People using assistive technologies can use these headers to scan the page to get a sense of its content.

Do provide link text that describes the content of the link target or action performed so that screen readers can scan the page's hyperlinks to help with page navigation. For example, instead of "click here" or "more," use "text-only version of this page" or "more information about applying for this position."

Do create forms with controls (such as selection lists) that are properly labeled; put the labels in <label> tags and use the associated "for" attribute to identify the associated control. For more information, go to section (n) on this page: http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/guide-to-the-section-508-standards/web-based-intranet-and-internet-information-and-applications-1194-22.

Do provide proper labeling in data tables. Use <th> tags to label column and row header cells. For tables with both column and row headers, use the <th> tags' "scope" attribute to indicate whether the cell is a row or column header. Keep tables simple, but if complex tables are required, add IDs to header cells and use the "headers" attribute in the data cells to associate cells and headers.

Do make sure that effects created using JavaScript are device independent—that is, that they can function with a mouse, keyboard, or other assistive technology. Use device-independent event handlers or multiple device-dependent handlers in combination to create device independence. (In JavaScript, event handlers create the response—for example, when a user clicks a link, a collapsed section of text expands.) Read more about accessible JavaScript at http://webaim.org/techniques/javascript/.

Don't place navigation links (such as a main menu bar), company icons, and other elements at the beginning of a site; these make it challenging for users to get to the main content. Instead, include a link that enables screen readers to skip to the page's main content. Read more about skip navigation at http://webaim.org/techniques/skipnav/.

Don't use blinking text and objects, which can cause seizures in individuals with photosensitive epilepsy and be distracting to people with learning disabilities.

For information on making websites 508 compliant, please go to http://www.section508.gov.

Videos, Webinars, and Audio Files

For multimedia files, users should be able to follow the dialog and action as they occur. Time the captions to coincide or "synch" with events as they occur and

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describe what is being said or going on in the room (for example, "bell rings in background"). Build in features that allow assistive technology to activate the media player's play, pause, rewind, and volume buttons. In addition:

Do create a transcript or closed captioning for video that can be synched to the audio or video or both. The user must be able to turn closed captioning on and off.

Do embed multimedia files on a web page in an accessible player. The player must be navigable by keyboard, screen reader, and other assistive technology and alternative input devices. Note that YouTube is only semi-accessible, although a new HTML 5 player in development will play without Flash, which will make user controls accessible. For more on 508-compliant video players, go to http://www.howto.gov/social-media/video/use-a-508-compliant-video-player.

Do make sure that all buttons and controls (Play, Pause, and Fast Forward) are tagged correctly so that they can be selected by assistive technology.

Do provide a link to any app or plug-in needed to access a file.

USE COLOR CORRECTLY

Color is useful in communicating important information. However, when color alone is used to convey meaning, someone who is blind or color-blind will not be able to access the information. The example at left uses color plus another indicator to ensure accessibility.

Contrast is important too. Make sure that there is enough contrast between foreground and background colors for those who are visually impaired to distinguish between the two. For testing contrast and colors for people with color blindness, go to http://www.visionaustralia.org/digital-access-cca.

Closed or Open?

Closed captioning shows the captioned text only when it is wanted and turned on.

Open captioning is displayed directly on the media file and can't be hidden from view.

Using Color in an Accessible Way

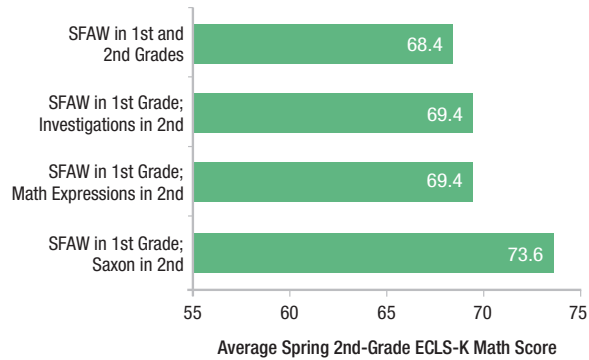Below is a list of participants with the winner denoted with an asterisk and highlighted in red.

Ann Jones

*Jim Cane

Janis Poole

ALTERNATIVE TEXT IS ESSENTIAL

Figure 2. Average 2nd-Grade Math Achievement: Students Who Stayed with SFAW Through 2nd Grade and Those Who Switched to Another Study Curriculum After 1st Grade

**ALT TEXT:** Pops up when users hover over it with mouse.

Students who were taught with Scott Foresman-Addison Wesley (SFAW) Mathematics in first and second grade scored 68.4 points, on average, in spring of second grade. Students who were taught with SFAW in first grade and Investigations in second grade scored 69.4 points, on average, in spring of second grade. Students who were taught with SFAW in first grade and Math Expression in second grade scored 69.4 points, on average, in spring of second grade. Students who were taught with SFAW in first grade and Saxon in second grade scored 73.6 points, on average, in spring of second grade.

"Alternative text," or "alt text," describes information contained in charts, graphs, illustrations, and photos. Alt text is not displayed but is read by screen readers or is visible when a user hovers over it with a mouse. Writing alt text early on, after your visuals have been finalized but before production has begun, will ease the 508 process. When deciding how much alt text to include, think about how you might describe something over the phone to a colleague. Use this level of detail to inform your decision. In addition:

Do refer the user back to another part of the document that contains related information.

Do make sure that alt text matches the words in an image containing text. For example, use "Welcome to the XYZ Online Store" rather than "Banner Image" for a website banner's alt text.

Don't provide alt text for images that are added only for visual interest.

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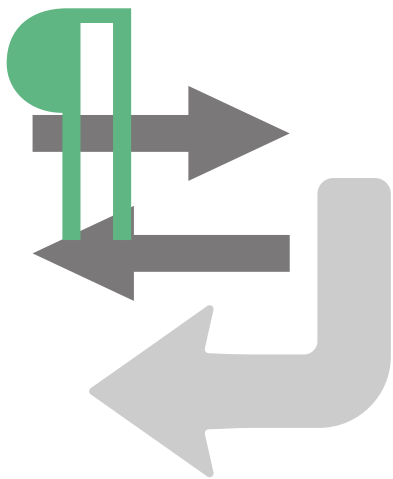
DOES READING ORDER MAKE SENSE?

To create a multicolumn layout that can be read correctly by assistive technology, format the document using the built-in commands of the program. For example, in Word, use the column formatting feature rather than tabs to create columns.

An Example of Illogical Order

Every·child·is·an·artist.··The·problem·is ⟶ If·anything·can·go·wrong,·it·will·—·¶
·how·to·remain·an·artist·once·we·grow·up.· ⟶ at·the·worst·possible·time.↵
-Pablo·Picasso ⟶ *-Murphy's·Law*¶

In the example above, columns were created improperly with tabs, and the screen reader reads, "Every child is an artist. The problem is If anything can go wrong, it will – how to remain an artist once we grow up. at the worst possible time. Pablo Picasso Murphy's Law."

An Example of an Accessible Logical Order¶*.........*Section Break (Continuous)*.........*

Every·child·is·an·artist.·The·problem·is·
how·to·remain·an·artist·once·we·grow·
up.¶
·-Pablo·Picasso· *........*Column Break*........*

If·anything·can·go·wrong,·it·will·—·at·
the·worst·possible·time.¶
·-Murphy's · Law·.Section Break (Continuous).

Although the example above looks similar to the one preceding it, it is correctly structured with the program's formatting commands, so assistive technology reads it in the correct order: "Every child is an artist. The problem is how to remain an artist once we grow up. - Pablo Picasso. If anything can go wrong, it will-at the worst possible time. -Murphy's Law."

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FOR FURTHER GUIDANCE

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A Final Note

Although it's important to think about accessibility early on, it's best to make your

product compliant at the end of the process, after all revisions are made and finalized.

Otherwise, you will need to re-do the compliance process every time there is a change.

Presentations:

http://www2.ed.gov/web-guidance/accessibility-requirements.html

Excel:

http://www2.ed.gov/web-guidance/accessibility-requirements.html

Websites:

http://www.section508.gov/

Videos, Webinars, and Podcasts:

http://www.section508.gov/

Guidelines on Setting Up Accessible Templates:

http://www.hhs.gov/web/508/accessiblefiles/index.html

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