

How Do Students Who Are Blind or Have Low Vision Access Online Distance Education?

- Students who are blind or have low vision participate in a traditional classroom in a variety of ways. For some students, it may be as simple as having the instructor read information written on a chalkboard, or having other students identify themselves when they speak in class. Other students may utilize note-takers, or use assistive technology devices like a Braille notepad to take notes.
- In an online distance learning classroom, students who are blind or have low vision can, with the help of assistive technology devices like screen readers, participate equally as effectively as other students. This is especially true as courseware becomes more and more accessible. However, instructors must be prepared to make a variety of accommodations for these students in a number of areas, including PDF files, charts and graphs, and HTML access.

PDF Files

Adobe Portable Document Format (PDF) files are more accessible now than ever. Because PDF files allow readers to zoom in on documents, they are very useful for students with low vision. However, many PDF files, especially those created from a text that was inputted by a scanner, are completely inaccessible to people who use screen readers. Other PDF files may result in garbled text that is hard to understand – for example, if a screen reader reads text across columns.

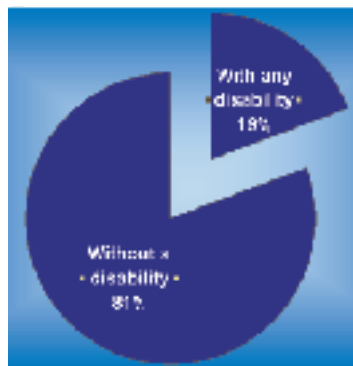
- You can test your PDF files for accessibility in two quick ways. First, open your PDF file in Acrobat Reader, and choose the “Text Select Tool.” Attempt to select some of the text in the document with the tool. If you can select it, the file may be accessible. If you cannot select any of the text, the document is likely not accessible. You can also convert the PDF file to an HTML file to test its readability using the Access Adobe website at: www.adobe.com/products/acrobat/access_simple_form.html.

- For more information about PDF access, read Factsheet #8, “Making Adobe PDF Files Accessible for Students with Disabilities.”

Charts and Graphs

- Charts and graphs are commonly used to present information. However, because of their visual nature, they can present a problem for students with visual disabilities. Taking the time to explain the data on a chart or a graph will help provide the same information for students with visual disabilities.

- For example, the chart below describes the percentage of people with disabilities as defined in the 2000 Census:



If this chart appeared in a Microsoft Word document, the instructor could include text in the file that explained that the chart is a pie chart illustrating that 19% of people with disabilities in the 2000 Census had some sort of disability, while 81% had no disability. If the chart appeared in a Microsoft PowerPoint presentation, the instructor could describe the chart in the speaker's notes, if a student had access to PowerPoint.

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- And if the chart appeared in an HTML file, the instructor could have presented the data side-by side with a text table, as follows:

With any disability	19.3%
Without a disability	80.7%

- Presenting the data in text form – for example, in a Microsoft Excel spreadsheet – is one way to provide accessibility. However, instructors generally use charts and graphs that show relationships between data. For a simple pie chart, like the one in the example, providing the text of the data would be the simplest means of providing access. However, if the chart were complicated, or showed a relationship that could not be readily deduced by looking at the raw data, the instructor should provide a text-based or audio-based description of the chart or graph so that students with disabilities could have equal access to the information as well.

HTML Accessibility

- Making HTML files accessible to students who are blind or have low vision is a complicated task. However, even for instructors who have little or no experience in web design, there are a few tips and tricks that can help students with visual disabilities achieve some access to HTML files.
- **Add alternative text to graphics.** Most HTML editors will allow you to select an image and add alternative text. □
- Screen readers rely on this alternative text to understand the meaning of images. Try to describe what □ □ graphics look like as though you were explaining them to a friend who is blind.
- **Don't use complicated backgrounds.** Complicated backgrounds make it hard for people with low vision to read □ the information on your website. Keep a high contrast between the color of your text and the background.
- **Be descriptive in using hyperlinks.** Describe the link rather than using a meaningless phrase like "follow this □ link". Using names like "Google" or "Georgia Tech" in the text of a link is much clearer than having a link that □ just says "click here."

Additional Resources

- For more information on HTML accessibility, read Factsheet #9, "Introduction to HTML Accessibility". Additionally, the following links may be helpful:

Section 508:

www.section508.gov

World Wide Web Consortium:

www.w3.org/WAI

Information Technology Technical Assistance and Training Center:

www.ittatc.org