Accessibility Tips for Charts, Graphs and Equations

Charts, graphs, and mathematical, statistical, or scientific equations need to be made accessible to individuals using assistive technologies such as text-to-speech tools. This guide is intended as a resource for instructors who create materials that include these elements.

Charts and Graphs in Documents & PowerPoints

If your chart or graph contains text and/or numbers, use the built-in tools in the programs you are using (Word, PowerPoint, etc.) to make tables, graphs or charts. Screen readers read text and numerals out loud from these features.

- Learn how to insert a table or create a chart in MS Office tools.

If the chart or graph is pasted in as a picture, you need to add Alt Text that clearly explains what the image shows.

- The ASU Image Accessibility Creator is one of many free online tools that can help generate functional Alt Text. Always review text for accuracy before adding it to your image.

Math, Statistical or other Scientific Equations

Alt Text for Equations: If you write an equation using LaTeX, AsciiMath, or MathML, you can copy and paste it into the free online MathJax Speech Converter to have it converted to Math Speak, which is a way to say math out loud clearly. You can use this MathSpeak version as the Alt Text in your document or PowerPoint.

Try not to use pictures of equations if possible. If you need to, convert the equation into MathSpeak and use this as the Alt Text for the image.

HTML File Format: If you use LaTeX, you may need to convert your accessible LaTeX file into an HTML or MathML format. These formats are easier for screen readers to understand and work better when uploading files to Blackboard or websites.

Lecture Videos: Describing Graphs, Charts or Equations

If you are presenting a chart, diagram, or equation in a video you create, make sure to describe them out loud. This helps people who can't see the screen understand the same information as everyone else. Focus on the most important components and explain anything that adds meaning, like labels, colors, or patterns.

Before you record your video, you can write a script to help you describe the visuals clearly. The Digital Accessibility Office has tips for writing Alt Text for charts and diagrams, which can help you plan what to say. There are also free online tools, like the ASU Image Accessibility Creator, that can help you to write good Alt Text descriptions for equations.

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