



# Writing Alternative Text Guide

## ENHANCING VISUAL CONTENT FOR ALL AUDIENCES

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## 1. Introduction: The Importance of Alternative Text

Alternative text, often referred to as alt text, is a text description of an image that will be read aloud for someone using assistive technology. When working with Individuals with Disabilities Education Act (IDEA) data, this might mean providing a text description for a bar graph showing the longitudinal trend in graduation rates for students with disabilities. Learning how to write effective alternative text descriptions for your IDEA data displays will help you create content that is accessible to everyone, including people with disabilities who use screen readers and other accommodations. Making your documents, presentations, and web content accessible will support your state or local education agency in making data and information available to everyone.

Most people assume that writing alt text only benefits individuals who are blind or have low vision. Alt text makes images accessible to a surprisingly large audience of sighted individuals who use screen readers to access documents or websites as well. People with cognitive disabilities may appreciate alt text that reinforces their interpretation of images. People with different learning disabilities such as dyslexia, for instance, may appreciate alt text, especially for graphics including text or numbers. Those with attention deficit hyperactivity disorder



(ADHD) or auditory learners may need the supplemental auditory input as they focus on a particular image.

Ideally, IDEA data should be accessible to everyone, most of all, the people with disabilities whose stories are captured in that data. Including alt text descriptions to explain the main data trends of a graph, or the relevance of the data to the surrounding text, can reinforce understanding and learning, and improve outcomes for people with disabilities. When alt text is added during the content production process, it forces authors and content creators to examine why they chose a particular image, increasing their awareness of graphics and visuals. Greater care and forethought put into universal design makes for greater comprehension and retention of IDEA data for everyone.

## 2. Cognitive Load and Working Memory

Cognitive load is the amount of mental effort required to learn something. This effort is composed of three parts: the inherent complexity of the concept, how many distractors must be filtered out, and the individual's ability to process information with their working memory.

Working memory is the amount of information that can be held in short-term memory at one time. When trying to learn new information, the average person can only handle about three elements at a time. This number is reduced for people with ADHD and reading disabilities, due to decreased working memory.

Research in the field of cognitive load and working memory has informed this guide, including how to both write and edit your alt text. Truly effective alt text organizes information to be clear and concise and filters out unnecessary details so that the person hearing the alt text being read aloud can easily process and retain the information.

## 3. How to Write Alternative Text for IDEA

The goal in creating alternative text is to help the listener effectively process information with their working memory so that it is retained by their long-term memory. The alt text writing task is particularly challenging when it comes to IDEA data because individuals may be asked to process information and terminology that is often both technical and unfamiliar, requiring significant cognitive load, even before we consider image description.

The best way to start is by working from general to specific, so your first sentence provides an overview of what the IDEA data image contains. First, name the type of image. Determine if it is a bar graph, a line graph, a timeline, a pie chart, a scatterplot graph, a flow chart, etc. Then, provide an overview in that first sentence of what is contained within the image and what information the image conveys. Depending on your purpose, audience, or context, you can then



choose to continue with further detail in your next sentence. The goal is to convey the content and purpose of the image concisely.

Some common mistakes to avoid include starting off each description with “An image of,” or “A photograph of,” or even “A black and white photo of.” The assistive technology will announce that it is a graphic before it reads your alt text, so you can edit out these repetitive phrases and skip straight to the content. Another pitfall is spending time describing the appearance of symbols rather than their meaning. For instance, in a bar graph that breaks down state data on various disabilities, the color of the bars is not important – what is important is what those arrows or lines represent and measure.

The following checklist is designed to help you approach any type of image with the same basic manner:

### **Writing Alternative Text**

1. Summarize what you see in one general informative sentence.
2. Work from general to specific to provide a framework for the listener.
3. Keep your description neutral and informative and avoid interpreting data. Simply describe what you see.
4. Use proper grammar, spelling, and punctuation.
5. Avoid acronyms and symbols.
6. Try to reduce redundancy when possible. If the surrounding text describes the image, avoid repeating the same information in your alt text.
7. Provide information in multiple modalities if possible, such as adding captions for figures and tables.
8. Always edit your alt text thoroughly and enlist another person to check your work if possible.

## **4. How Much Detail to Include**

The best practice for image description is to limit your alt text to one or two sentences, if possible. Think of your first sentence as the overview that explains the type of image and a summary of its content. The second sentence can then provide further detail or context. Keeping alt text as concise as possible also reduces cognitive load for listeners.

The best practice for alt text is to keep descriptions between 125 and 250 characters. Job Access With Speech (JAWS) screen reading software has a default setting to pause after 250 characters, so alt text that is longer than this may be cut off or skipped entirely if the user has not adjusted the program’s verbosity settings. While some screen reader users prefer comprehensive image description, most prefer that alt text be kept as simple as possible to avoid being bogged down by extra listening time.

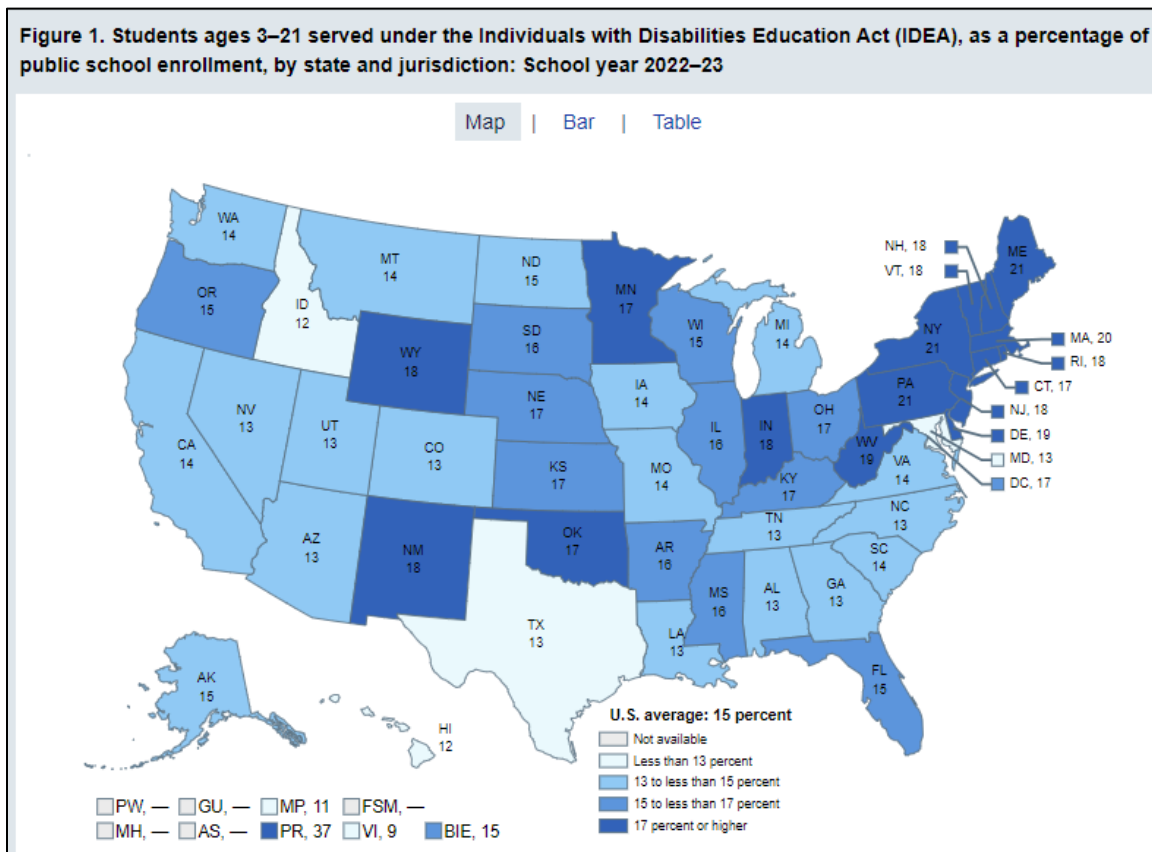


In some cases, you may need to go beyond one or two sentences, especially if the IDEA data display is complex and/or contains multiple variables. Throughout this guide, we have described all the sample images with both brief and comprehensive alternative text so you can see the difference between the two. This allows for templates for both types of image description. If you need to provide very detailed alt text for a complex graph, the best practice is to include this information in a different format, such as a caption or a list or table provided alongside the image, so that the alt text can remain concise.

A final consideration in determining the appropriate length of your alt text is determining the context of publication, purpose, and audience of your IDEA data presentation, document, or website.

The map below includes IDEA prevalence data for all 50 states and U.S. entities. We have provided examples of ways to describe this map, including some or most of the data points. We recommend that if your audience needs every percentage, then including a comprehensive list or table of percentages for each state alongside the graphic would allow you to write brief alt text that just describes the trends.

**A map that indicates a brief caption and detailed state-specific data:**





**Brief Alternative Text:** Figure 1 is a map of the United States that depicts the percentage of students aged 3 to 21 served under the Individuals with Disabilities Education Act (IDEA) for the school year 2022 to 2023. States in the Northeast and parts of the Midwest, such as Maine and New York, show the highest percentages. Hawaii and Idaho show the lowest percentages.

**Comprehensive Alternative Text:** Figure 1 is a map of the United States that depicts the percentage of students aged 3 to 21 served under the Individuals with Disabilities Education Act (IDEA) for the school year 2022 to 2023. The U.S. average is 15%. Percentages for each state range from less than 13%, 13 to 15%, 15 to 17%, and 17% or higher. States in the Northeast and parts of the Midwest, such as Maine and New York, show the highest percentages. Hawaii and Idaho show the lowest percentages.

## 5. Strategies for Editing Alternative Text

Translating a visual graphic into language takes quite a bit of mental focus, and even the most careful writers will find misspellings and grammar errors creeping into their writing. This section includes several helpful editing techniques for refining and optimizing your alternative text.

The following checklists provide further information about what to look for when you are reviewing your alternative text, along with specific strategies for editing your writing:

### Editing Tips

- Enlist another person to read over your work.
- Wait at least a day before editing your own alt text.
- When revising alternative text, look for ways to:
  - make your description clear and concise,
  - make your syntax more organized and easier to follow, and
  - avoid repetition.

### Use Clear and Concise Wording

- Edit for clarity.
- Simplify word choice.
- Spell out acronyms or symbols.

### Organize Information

- Work from general to specific to provide a framework.
- Organize information in predictable ways.
- Group like items and describe relationships.
- Describe images by their similarities first, differences second.



## 6. How to Insert Alternative Text

In this section you will find brief instructions for how to insert alt text in Microsoft Word, Excel, PowerPoint, Adobe Acrobat, and Adobe InDesign. We have also included links to the instructional pages for these programs, as these programs are frequently updated and how you access the alt text field may change.

Before you begin adding alternative text in either Microsoft Word, Excel, or PowerPoint, please make sure that you deactivate the setting that auto-generates alt text for you in Microsoft programs. Auto-generated alt text is often wildly inaccurate and incomplete. You will need to disable this feature within all three Microsoft programs to ensure that all your figures are described manually and accurately.

**To disable auto-generated alt text for your images, please do the following:**

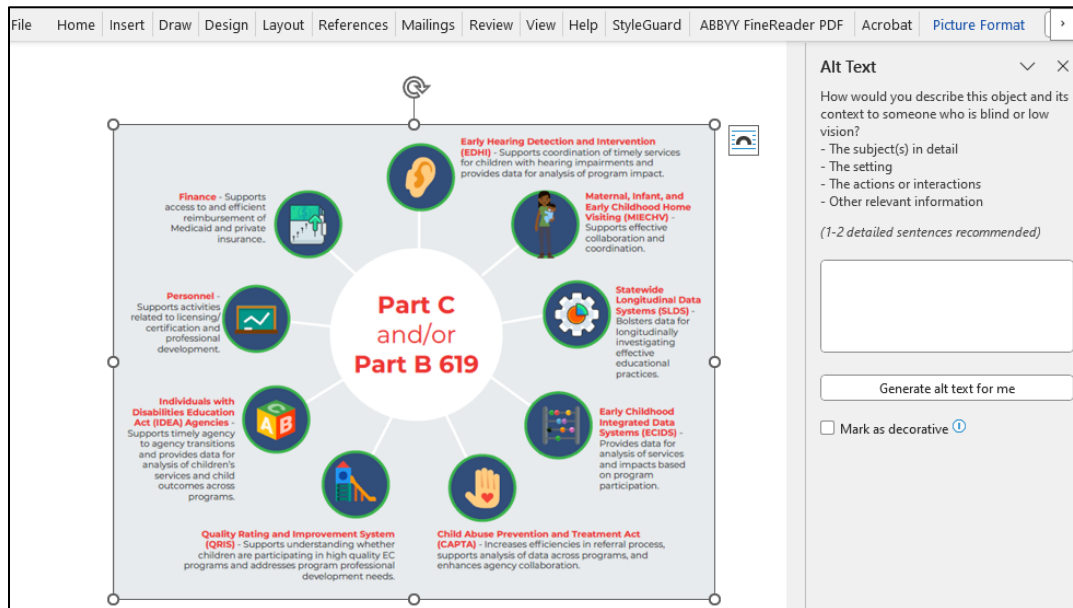
- Click on File.
- Click on Options.
- Select Accessibility.
- Uncheck “Automatically generate alt text for me.”

**To add alternative text in Microsoft Word, Excel, or PowerPoint:**

- Right-click on the image and choose “View Alt Text.”
- If you do not see the View Alt Text option in the menu when you right-click, select “Picture” and then click on the Alt Text tab.
- Type your alt text in the description field.
- Do not use hard line breaks to create separate paragraphs.
- Additional instructions for adding alternative text: [Microsoft Support](#).



## A screenshot of the Alt Text field in Microsoft Word:



**Brief Alternative Text:** A screenshot of an infographic in a Microsoft Word document explaining the components of Part C and/or Part B 619.

**Comprehensive Alternative Text:** A screenshot of an infographic in a Microsoft Word document. The alt text field panel is opened on the right. The infographic is labeled "Part C and/or Part B 619" in the center, surrounded by nine icons with corresponding text descriptions arranged around the central circle. The surrounding icons are labeled: Finance, Personnel, Individuals with Disabilities Education Act (IDEA), Quality Rating and Improvement Systems (QRIS), Early Hearing Detection and Intervention (EDHI), Maternal, Infant, and Early Childhood Home Visiting (MIECHV), Statewide Longitudinal Data Systems (SLDS), Early Childhood Integrated Data Systems (ECIDS), and Child Abuse Prevention and Treatment Act (CAPTA).

### To add alternative text in Adobe Acrobat:

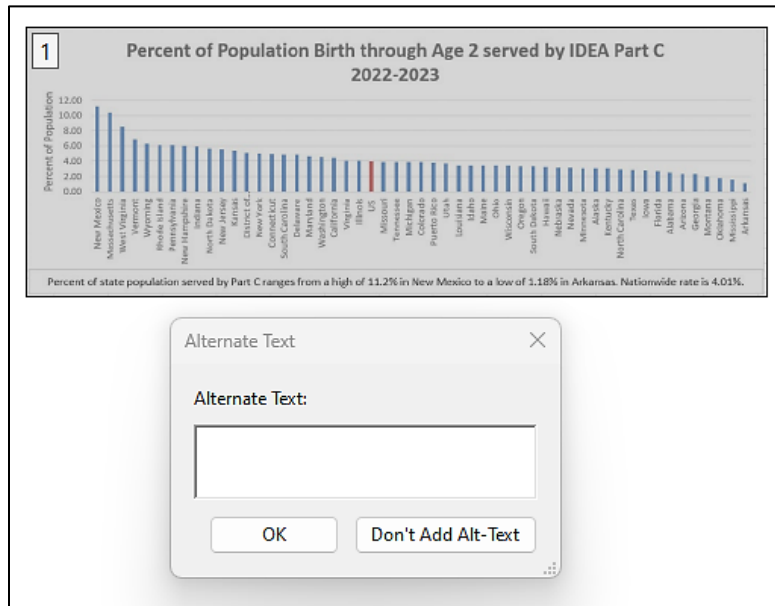
- If you need to add alt text to an image in Acrobat, first click on Tools, and select Accessibility.
- Select the Reading Order tool and scroll through your file looking for images. With this Reading Order tool enabled, all images will have a large X drawn over them for easy identification.
- Right click on each image and select Edit Alt Text to write your description using proper grammar, spacing, and punctuation.





- If you are proficient in editing Portable Document Format (PDF) structure tags, you can also add your alt text in the tags tree by right-clicking on a Figure tag and opening its Properties.
- List of accessibility features available in [Adobe Acrobat](#).

### A screenshot of the Alt Text field in Adobe Acrobat:



**Brief Alternative Text:** A bar graph titled, "Percent of Population Birth through Age 2 served by IDEA Part C, 2022 to 2023." New Mexico had the highest percentage, and Arkansas had the lowest percentage. The Alternative Text dialog box is opened.

**Comprehensive Alternative Text:** A bar graph titled, "Percent of Population Birth through Age 2 served by IDEA Part C, 2022 to 2023." The horizontal axis lists U.S. states, and the y axis has percentage of population ranging from 0 to 12. An annotation at the bottom of the graph reads: Percent of state population served by Part C ranges from a high of 11.2% in New Mexico to a low of 1.18% in Arkansas. Nationwide rate is 4.01%. The Alternative Text dialog box is opened.

### To add alternative text in Adobe InDesign:

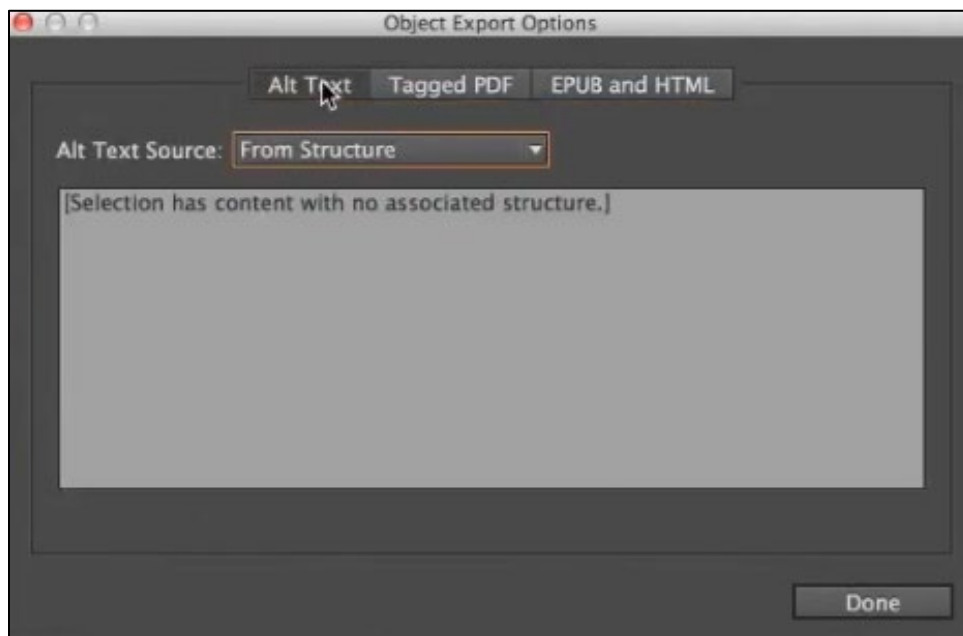
- If you need to add alt text to an image in InDesign, right-click on an image and select Object Export Options. This will open the dialog box shown below.
- Select the Alt Text tab at the top and then select "Custom" as the Alt Text Source in the dropdown menu.
- Type in the description field using proper grammar, spacing, and punctuation, and click Done.





- If you have prewritten alt text in Adobe Bridge or in the description field in Photoshop, right-click on the image and select Object Export Options. Select “From XMP Description” as the Alt Text Source in the dropdown menu to import this alt text.
- If there is a decorative background image that does not need alt text, right-click on the image and select Object Export Options. Select the Tagged PDF tab at the top and select “Artifact” in the dropdown menu. This will ensure that the image is ignored by assistive technology.
- List of accessibility features available in [Adobe InDesign](#).

**A screenshot of the Alt Text tab in Object Export Options dialog box in Adobe InDesign:**



**Brief Alternative Text:** The Object Export Options dialog box. There are three tabs available for Alt Text, Tagged PDF, and EPUB and HTML. Alt Text is currently selected and there is a dropdown menu to select the Alt Text Source.

## 7. How Alternative Text is Read Aloud

When alternative text has been inserted properly, the assistive technology will read it aloud as it encounters the image in the document or website. Most assistive technology reads from top to bottom, left to right. The user will often hear the word “Graphic” before the alt text is read aloud, and for this reason we advocate not starting your alt text with “A graphic” or “A photograph” as it is repetitive for the listener.

There are many different programs, apps, and screen readers that people with disabilities use, and therefore we advocate that people spell things out fully instead of relying on acronyms or



abbreviations. That way, if symbols or acronyms are spelled out, such as percentage instead of the percent sign, or Least Restrictive Environment instead of LRE, there is a much greater chance they will be pronounced accurately and heard the way they were intended. Once the alt text has been read, the screen reader will immediately read the next text on the page. This is another reason we advocate for proper punctuation. This creates a natural pause between your image description and the subsequent text content. For example, using a period provides a full stop at the end of an alt text description.

Screen readers often shift their tone and pitch to indicate capital letters or bold text, and they pause for punctuation such as commas, dashes, semi-colons, or periods. An experienced JAWS user can process these tiny shifts in tone even while listening to content at rates much higher than normal human speech. A JAWS expert may prefer to listen to content at 500 words per minute, compared to the normal speaking rate of around 150 words per minute.

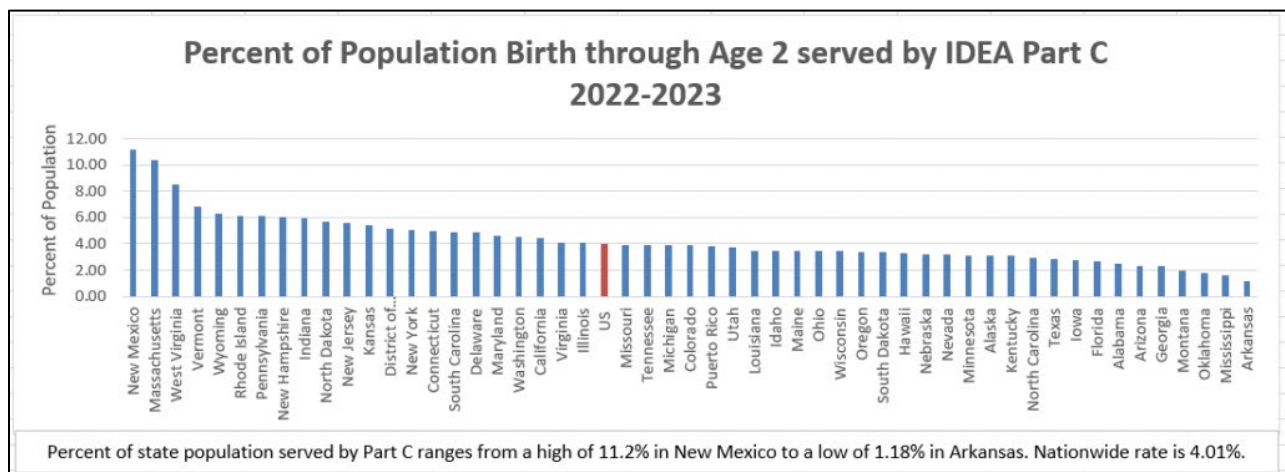
Below are some helpful videos showing a person using JAWS to access different types of media to give you an idea of how content is read aloud:

- [Navigating in Word Using JAWS](#)
- [Navigating Web Pages with JAWS](#)
- [Working with Emails Using JAWS](#)

## 8. Examples of IDEA Data Charts and Graphs

The following graphics are included to demonstrate a wide range of charts and graphs representing IDEA data. Each example is followed by samples of brief and comprehensive alternative text to give you templates for how you could approach describing similar images.

**An example bar graph:**

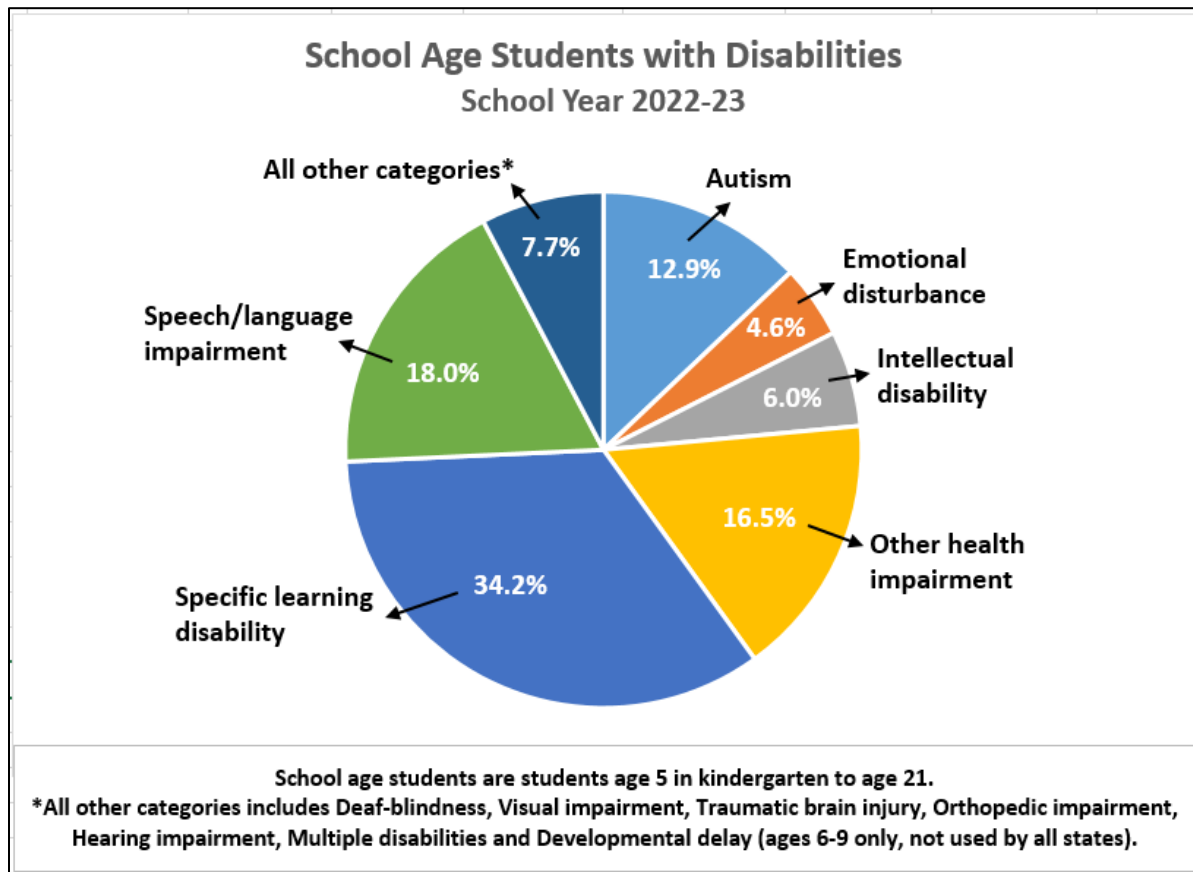




**Brief Alternative Text:** A bar graph titled, "Percent of Population Birth through Age 2 served by IDEA Part C, 2022 to 2023." New Mexico had the highest percentage, and Arkansas had the lowest percentage.

**Comprehensive Alternative Text:** A bar graph titled, "Percent of Population Birth through Age 2 served by IDEA Part C, 2022 to 2023." The horizontal axis lists U.S. states, and the y axis has percentage of population ranging from 0 to 12. An annotation at the bottom of the graph reads: Percent of state population served by Part C ranges from a high of 11.2% in New Mexico to a low of 1.18% in Arkansas. Nationwide rate is 4.01%.

**An example pie chart:**



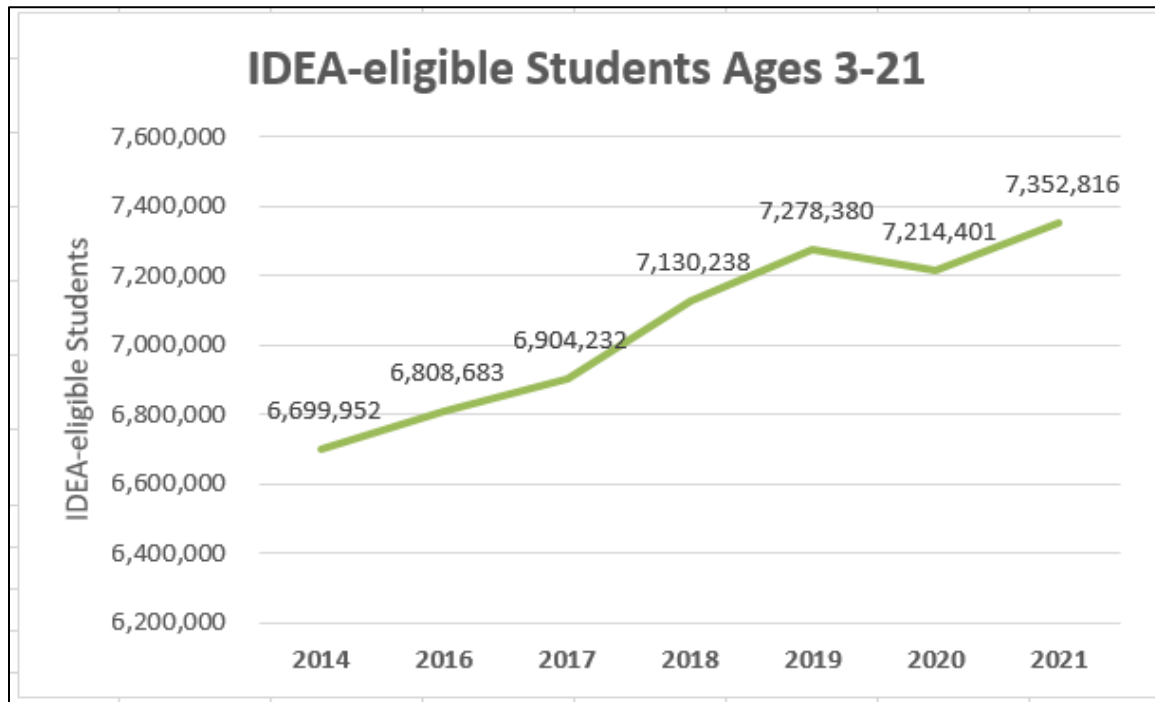
**Brief Alternative Text:** Pie chart titled, "School Age Students with Disabilities: School Year 2022 to 2023," compares the percentages of seven categories.

**Comprehensive Alternative Text:** Pie chart titled, "School Age Students with Disabilities: School Year 2022 to 2023." The pie is split into seven sections: specific learning disability 34.2%, speech/language impairment 18%, other health impairment 16.5%, autism 12.9%, all other categories 7.7%, intellectual disability 6%, and emotional disturbance 4.6%. A note at the



bottom reads: school age students are age 5 in kindergarten to age 21. All other categories include deaf-blindness, visual impairment, traumatic brain injury, orthopedic impairment, hearing impairment, multiple disabilities, and developmental delay (ages 6 to 9 only, not used by all states).

**An example line graph:**

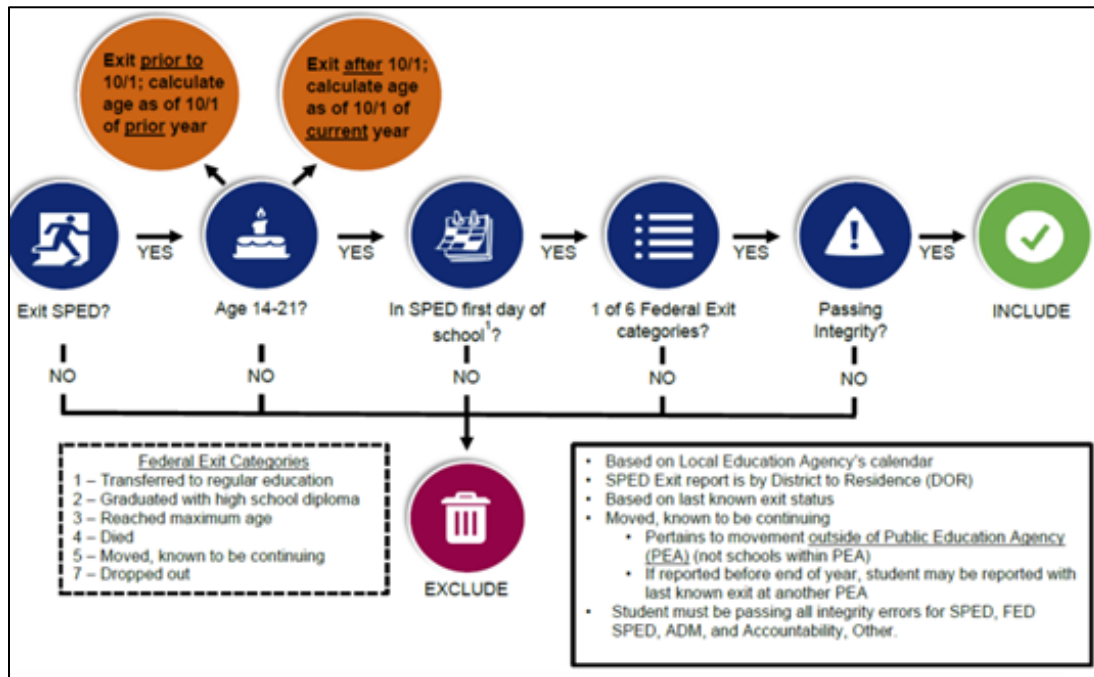


**Brief Alternative Text:** A line graph titled, "IDEA-eligible Students Ages 3 to 21." The graph tracks the total number of IDEA-eligible students from 2014 to 2021, showing a general upward trend in the number of eligible students over this period.

**Comprehensive Alternative Text:** A line graph titled, "IDEA-eligible Students Ages 3 to 21." The graph tracks the total number of IDEA-eligible students from 2014 to 2021, showing a general upward trend in the number of eligible students over this period. The years and the number of IDEA-eligible students are: 2014, 6,699,952 students; 2016, 6,808,683 students; 2017, 6,904,232 students; 2018, 7,130,238 students; 2019, 7,278,380 students; 2020, 7,214,401 students; and 2021, 7,352,816 students.



### An example flow chart:



**Brief Alternative Text:** A flowchart that outlines criteria to determine whether a student is included or excluded from Special Education (SPED) reporting.

**Comprehensive Alternative Text:** A flowchart that outlines criteria to determine whether a student is included or excluded from Special Education (SPED) reporting. It evaluates eligibility based on specific steps and conditions. The chart contains labeled icons, decision points, and criteria descriptions for each step. If “No” is answered at any of the steps, the process ends. If “Yes” is answered, the flow is as follows: 1. Exit Sped? 2. Age 14 to 21? 3. In SPED first day of school? 4. 1 of 6 Federal Exit categories? 5. Passing Integrity? After 5 “Yes” responses, the student is included. The 6 Federal Exit Categories are: 1. Transferred to regular education. 2. Graduated with a high school diploma. 3. Reached maximum age. 4. Died. 5. Moved, known to be continuing. 6. Dropped out.

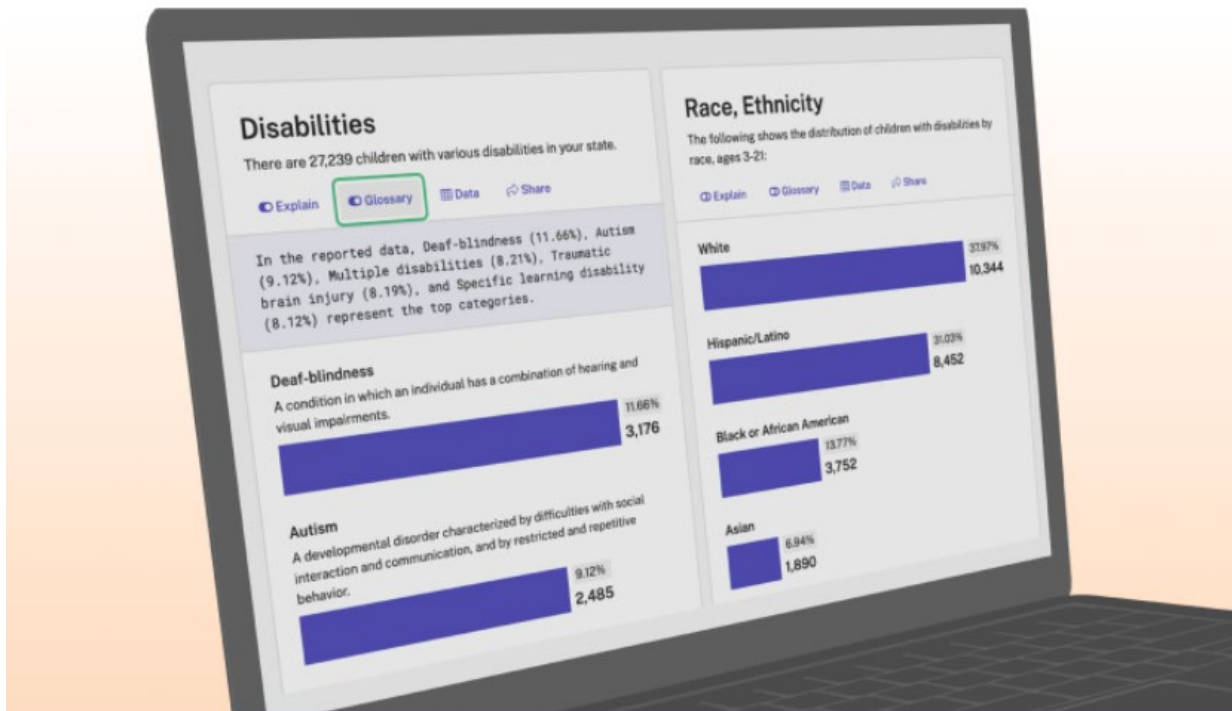
## 9. Captions for Figures, Graphs, and Tables

If you look at the image examples throughout this guide, we have provided alternative text underneath each image, and they function much like a figure caption would in a textbook. Including captions for images, figures, graphs, and tables is best practice for all users, because that content will be read aloud via a screen reader, and visible for sighted people. In this way, including captions is a way to incorporate elements of universal design in your documents and websites. A well-written caption can explain the purpose and content enough so that image description is not necessary.



The image below includes a caption that describes the content so well that very little image description is necessary.

**A computer screen showing someone using the Accessible Data Analysis and Publishing Tool (ADAPT). The figure is accompanied by a caption.**



A computer screen shows the ADAPT product with data on students with disabilities, categorized by type and race/ethnicity. On the left, the 'Explain' toggle offers plain-language data explanations, while the 'Glossary' toggle, in focus, provides definitions for each disability type, accompanied by corresponding horizontal bar charts.

**Brief Alternative Text:** A computer screen displaying the ADAPT Tool.

**Comprehensive Alternative Text:** A computer screen displaying the ADAPT Tool. A caption below reads: A computer screen shows the ADAPT product with data on students with disabilities, categorized by type and race/ethnicity. On the left, the 'Explain' toggle offers plain-language data explanations, while the 'Glossary' toggle, in focus, provides definitions for each disability type, accompanied by corresponding horizontal bar charts.

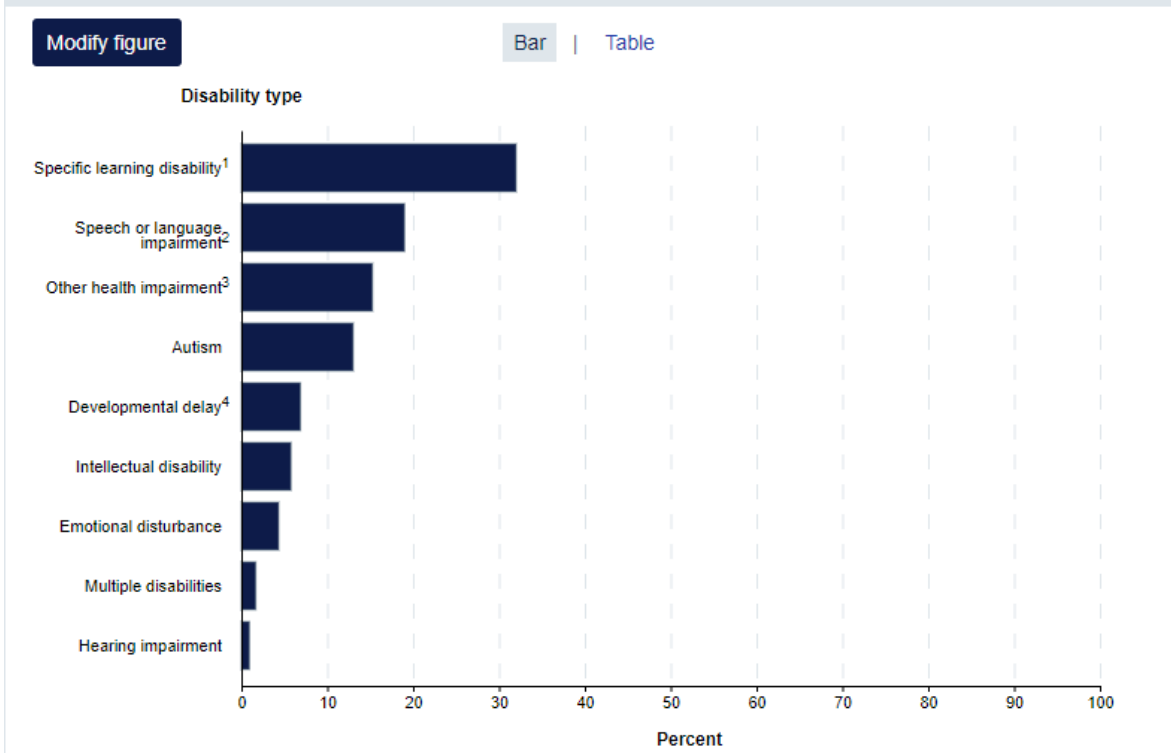
For graphs, a caption that offers a summary or overview of the data will help interpret the graph for individuals, pointing out key data points or explaining the importance of the data trends. In this example of a bar graph with many data points, the caption sums up the key ideas and allows the person writing an alt text description to focus on the title, what is on the vertical and horizontal axes, and the overall visual impact of the graph.





**A bar graph with a distinct visual impact that should be described in the alt text:**

**Figure 2. Among students ages 3–21 served under the Individuals with Disabilities Education Act (IDEA), percentage distribution of selected disability types: School year 2022–23**



**Brief Alternative Text:** Figure 2 is a bar graph plotting data for students ages 3 to 21 served under the Individuals with Disabilities Education Act (IDEA), percentage distribution of selected disability types from the school year 2022 to 2023. Specific learning disability had the highest percent by a wide margin and hearing impairment had the lowest percent.

**Comprehensive Alternative Text:** Figure 2 is a bar graph plotting data for students ages 3 to 21 served under the Individuals with Disabilities Education Act (IDEA), percentage distribution of selected disability types from the school year 2022 to 2023. The disability types and their approximate percentages are: specific learning disability, 32%; speech or language impairment, 19%; other health impairment, 15%; autism, 13%; developmental delay, 7%; intellectual disability, 5%; emotional disturbance, 4%; multiple disabilities, 2%; and hearing impairment, 1%.

Table captions are incredibly beneficial to help provide an overview of the table’s contents and describe the relevance of trends in the data. Although it is common to find notes below a table, a descriptive caption that is read before the table would be most helpful for people using screen readers to access content. They would also be available to everyone. They could provide a helpful summary of the table data or call attention to particular trends or correlations.





The table below is an interesting example because it places the title of the table inside the first column header. The first column should be “Disability Type,” as all the cells in this column refer to a different category of disability. The table’s title would be more helpful if placed before the table. That way, someone listening with a screen reader would not need to enter into table mode to hear the data and could decide whether to listen to or skip the table data. Table mode refers to a special navigation feature of a screen reader that allows a person to move through the cells of a table on a webpage or document by using specific keystrokes. Including a figure caption would also help to preview the contents of the table and explain its relevance. Placing the table’s title before the rows begin and including a descriptive caption would benefit sighted users, as well.

**This table hides its title in the first row, and needs a more accurate header for the first column:**

Table 1. Removal Length, Discipline Method and Disability Category	In school suspension less than or equal to 10 days count	In school suspension greater than 10 days count	Out of school suspension less than or equal to 10 days count	Out of school suspension greater than 10 days count	Total student suspensions expulsions by type and length
Autism	309	*	626	*	958
Deaf-Blind	*	*	*	*	*
Developmental Delay	102	*	205	*	310
Serious Emotional Disability	688	*	1260	*	2139
Hearing Impairment, Including Deafness	38	*	43	*	84
Intellectual Disabilities	53	*	129	*	191
Multiple Disabilities	45	*	150	*	205
Other Health Impairment	1263	*	2030	*	3462
Orthopedic Impairment	*	*	*	*	*
Specific Learning Disability	2413	17	3782	255	6467
Speech or Language Impairment	179	*	262	*	450
Traumatic Brain Injury	29	*	30	*	65
Visual Impairment, Including Blindness	*	*	*	*	16
Total Student Suspensions/Expulsions by length	5128	43	8538	652	14361

**Brief Alternative Text:** Table 1 shows data on removal length, discipline method, and disability category. The table has 6 columns and 15 rows.

**Comprehensive Alternative Text:** Table 1 has counts of suspensions and expulsions for students with disabilities, categorized by removal length, discipline method and disability category. The total student suspensions or expulsions by length for the following are: in school suspension less than or equal to 10 days count, 5,128; in school suspension greater than 10 days count, 43; out of school suspension less than or equal to 10 days count, 8,538; and out of school suspension greater than 10 days count, 652.



## 10. Alternative Text Resources

- [Document Accessibility: A Basic Overview Incorporating Universal Design](#)
- [The Diagram Center's Image Description Guidelines](#)
- [The Diagram Center's POET Image Description Training Tool](#)
- [W3C Web Accessibility Initiative Images Tutorial](#)
- [W3C Alt Text Decision Tree](#)
- [WebAIM's Guidelines for Alt Text](#)
- [NN/g Article on Alt Text: What to Write](#)