Accessibility Tips

There are many steps involved in creating an accessible learning environment. This tip sheet contains just a few of the things you can do to work toward meeting that goal.

Document Structure

Using proper structure and chunking (such as use of Headings and Lists) within a document makes it more readable and more navigable

Headings

Use Headings in all documents you create. Heading levels allows both sighted readers and screen reader users to skim materials and jump to the section they wish to read. A student with low vision issues is at a disadvantage when it comes to reading documents. It may be difficult, if not impossible, for the student to visually scan a document to find the material that she wants. If the student is using assistive technology such as a screen reader, how will she know what is covered in the document if there is no organized structure to the material? How does she find a specific piece of information unless she reads the entire document?

For an example of the challenges one faces when using a screen reader to read unstructured documents, view the following YouTube video: Intro to Screen Readers - University of Wisconsin-Madison (07:05).

- Organize your content into a logical outline format.
- Place important information or instructions at the top, when possible.
- Use the built-in heading structure of your authoring tool (e.g., Word, SoftChalk, PDF, HTML, etc.).
  - Headings create bookmarks so that students can navigate through your document.
 - Use heading styles rather than bolding or enlarging text.

Organizing your content under heading levels also helps to visually organize the content of your document for sighted readers, including those with cognitive challenges.

Use levels in the proper order.

- Heading 1 for title.
- Heading 2 for main sections.
- Heading 3 for sub-sections.
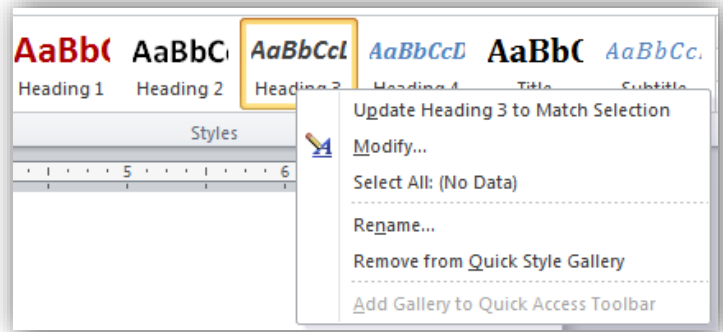
Headings in Word & PDF

In Microsoft Word, headings are found on the **Home** tab in the **Styles** group. When using Word for Macintosh, the Styles options are found on the Formatting palette. Select **Heading 1** for the main title of your document, heading 2 for the first major section title, and each major section title throughout.
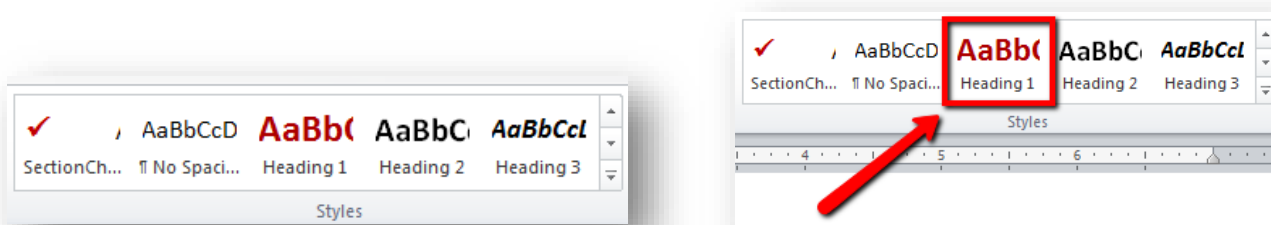
You can change the formatting of the headings by using the **Change Styles** options or by adding your own customizations.
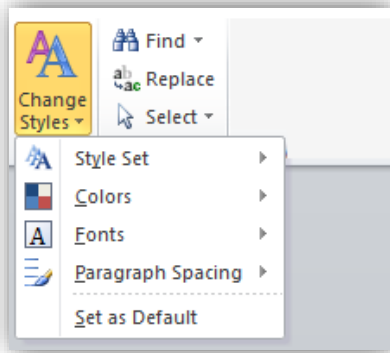
Use Change Styles menu options to modify format of headings

Right-click on heading to customize heading format

If you create your document using headings in Word and then convert it to PDF, the headings will be preserved and carry over to the PDF version of the file. It is usually easier to fix a document's accessibility in Word rather than using Adobe Acrobat Pro after it has been converted into a PDF.

For more info…

- Additional information is available online regarding using headings in Word to create accessible documents: http://webaim.org/techniques/word/.
- Documentation for applying Headings in Word is available online at: https://support.office.com/en-us/article/Add-a-heading-in-a-Word-document-9f632a5c-b33e-4b69-985b-7dcbbbb558ee.
- The preformatted heading styles can be easily edited to your own preferences when you right-click on the heading and select Modify: https://support.office.com/en-US/article/Customize-styles-in-Word-d38d6e47-f6fc-48eb-a607-1eb120dec563.
- Extended documentation for using Styles is also available online at: http://office.microsoft.com/en-us/word-help/style-basics-in-word-HA102647012.aspx?CTT=1.

Headings in HTML Editors

Most learning management systems (LMS) (i.e. D2L Brightspace, Blackboard, Canvas, Moodle, etc.) have **HTML Editors** where you can create documents and enter text directly with in the LMS. Built-in heading styles are found in the Editor's toolbar. If you are copying into the Editor from Word, if available, use the **Paste from Word** option to retain any formatting already done in Word, or **Paste as Plain Text** to strip the formatting so you can do all the formatting within the Editor. Other HTML authoring tools, such as Dreamweaver, and lesson builders such as SoftChalk, also have built-in heading styles.

In HTML, use the built-in heading styles in the editing tools or add tags with in the code, i.e. <h1>.
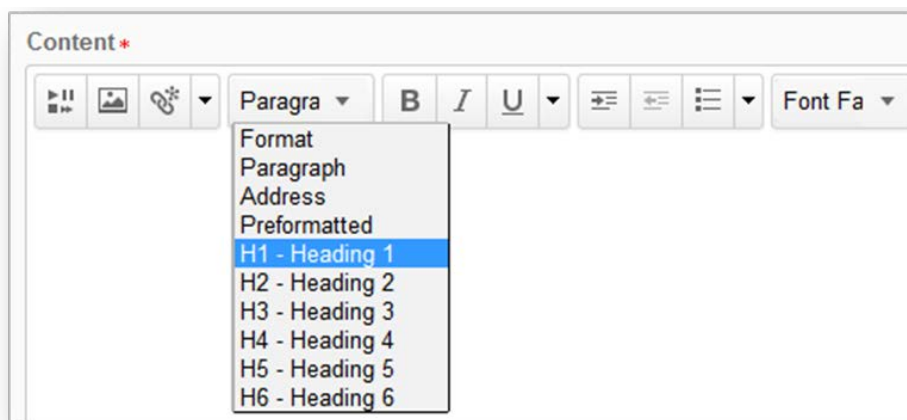
Lists

Similar to using the built-in heading styles, using the built-in list styles is also important for organizing and chunking content for sighted readers and proper tagging for those using assistive technologies.

Use Bulleted lists for…

- Unordered lists.
- No specific sequence.

Use Numbered for…
- Ordered lists (1, 2, 3) or outline (I, II, III, IV).
- Step-by-step.
- Indicates sequence.

Spacing and Table of Contents

As you work to make your document structure accessible, also consider how you adjust spacing and length in your Word document. Rather than adding returns to add whitespace or start on a new page, use the Spacing and Breaks tools built into the program. It may take some experimenting to find the settings you most prefer.
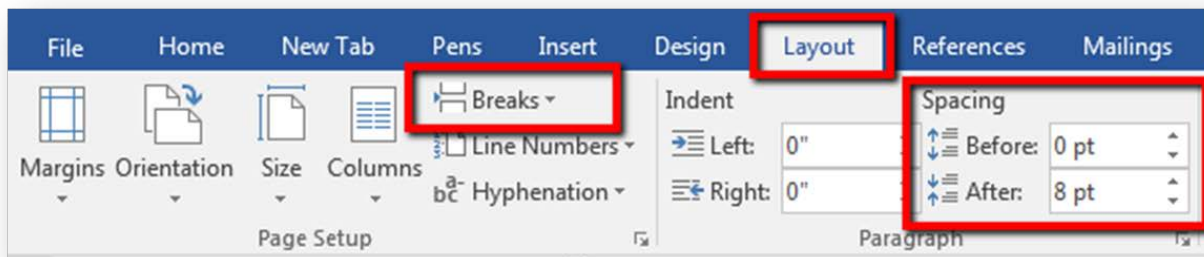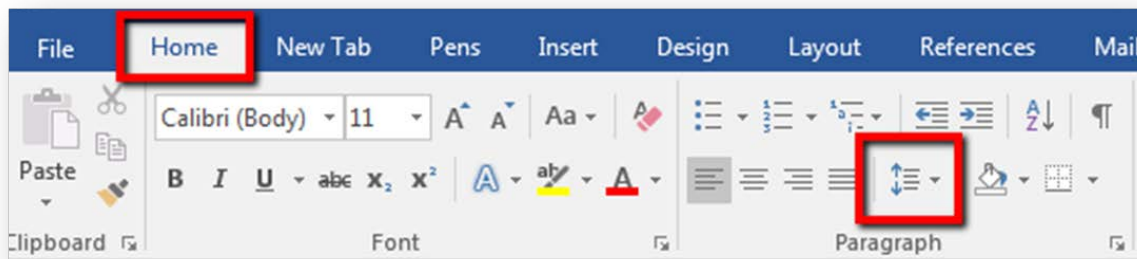
If your document is long, add a Table of Contents to allow readers to more easily navigate to particular sections within the document. If you have already added heading tags, then those will automatically be added to the Table of Contents. (https://support.microsoft.com/en-us/help/285059/how-to-create-a-table-of-contents-by-marking-text-in-word)
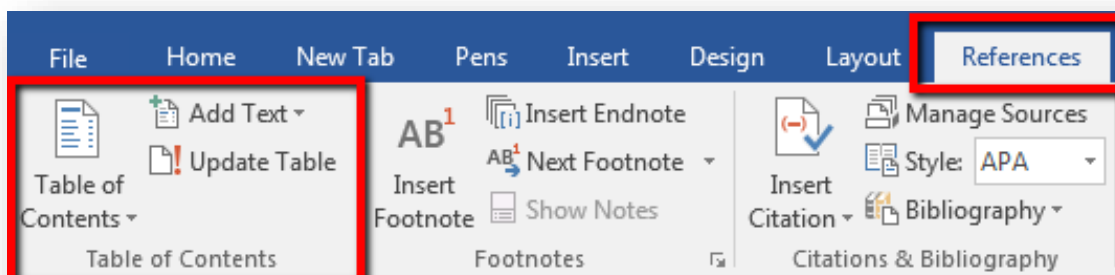
Document Format

Choose Accessible Fonts, Colors, and Text Effects

The choices you make for your font are also important in making your course more accessible for students with visual issues.

Use Sans Serif font

- The selected font can either hinder or help a student with low vision issues.
- Choose sans serif font (e.g., Calibri, Verdana, Arial, Tahoma) for easy readability on computer and mobile devices. Serif fonts (e.g., Times New Roman, Bookman Old Style, Garamond, *Lucinda Calligraphy*) are used only if the content is to be printed (not read online). If your content is likely to be read both online and in print, choose sans serif.

Be Mindful of Color Choices

- Students with low vision issues need high contrast to read text on a screen. Making wise color choices will also reduce eye fatigue for your sighted students and help those with color blindness.
- Use dark font colors on a light background (e.g., black text on white background).
- Avoid extremely bright colors as a background color.
- Use one font and color for text.
- Avoid using color to distinguish between information, or as the only means to of conveying the information.
- Consider using bold and italics to emphasize text when necessary, and use textures in addition to color when creating charts. Generally red-blue and yellow-blue color combinations are safe.
- Use WebAIM's Color Contrast Checker to see if your colors pass the test. https://webaim.org/resources/contrastchecker/)
- Use ColorZilla if you are not familiar with your color choice's HEX #s. (http://www.colorzilla.com/)

Be Mindful of the use of CAPS and Text Effects

- Avoid overuse of all CAPS. Students with low vision issues might find words in all capital letters confusing and difficult to read.
- Be mindful to limit your amount of bolding and italicizing.
- Too much use of emphasis causes it to lose impact and all CAPS may be considered shouting.

Avoid use of underlined text

- Avoid underlining words for emphasis. Instead use styles, bolding, and italicizing where appropriate.
- Reserve underlining for navigation links. Underlined text denotes a link to low vision readers and assistive technologies.

Scanned Documents

If you scan a document to add to your course site, ensure the visual quality of the document. Be sure to scan the document as text, rather than an image.

Clarity

- Make documents readable onscreen.
- Do not force readers to print document.
- Place text right-side up.

- Remove hand-written notes.

Text or Image?

- Scan for OCR (optical character recognition). Each scanner/printer is different, but look for options such as selecting "optimize for text" rather than image.
- Check whether you can select & copy PDF text. If you can highlight, select, and copy the text, then you've successfully scanned as text.
- Select "Read Out Loud" using Adobe Reader. If the reader is able to read the text to you, you've successfully scanned as text.
- Further details are available online:
  - o [Creating Accessible PDFs](http://www.section508.va.gov/support/tutorials/pdf/1scandocs_1.asp) with Adobe Acrobat Pro: http://www.section508.va.gov/support/tutorials/pdf/1scandocs_1.asp.
  - o Top Tips for Creating Accessible Documents – [Quick Start Guide](http://accessibility.colostate.edu/documents/Top%20Accessibility%20Tips_Quickstart%20Guide_01-2014.pdf): http://accessibility.colostate.edu/documents/Top%20Accessibility%20Tips_Quickstart%20Guide_01-2014.pdf.

Tables

➢ Ensuring your [Tables are properly formatted](https://webaim.org/techniques/tables/) so that a student using a screen reader will be able to read it properly. (https://webaim.org/techniques/tables/)
  - Do not merge or split table cells.
  - Designate column and/or row headers.
  - Repeat header rows when the table continues to a second page (Word documents and PDFs).
  - Add Alt text.

Descriptive Links

Links: Descriptive Text

When adding a link to a page, do not paste in the entire URL address, but rather make a descriptive section of text a link. Also, do not use "click here" as your descriptive text. Why? Screen reader users can jump from link to link using the descriptive text. People using screen readers can list all links on a page. The URL addresses are confusing and will be read in full by the screen reading software. Who wants a long, meaningless address read to them? A title or descriptive text will help them know what to expect if they select the list – a long URL or "click here" is not helpful. The exception to this rule is if you are creating content that is intended for printing (or both online reading and printing), then the entire URL will be necessary. (In this document I have tried to model both descriptive links and inclusion of full URLs as I suspect this document will be both read online and printed.) An example of a descriptive text link and full URL address:

The phrase "click here" is not generally helpful and is extraneous in most cases. For example, a link that says "click here to access information on link text" can be shortened to "access information on link text" or even just "link text."

If the document is to be both read online and printed, include the URL address within parentheses:

e.g. Google (http://google.com).

If a link opens a PDF document or vide, say so and include the document size/video length within the link text:

e.g. Annual Report [PDF, 750 KB]
e.g. Accountants and Auditors [video, 1:09 mins]

Images

Alt Text

Alternative text (alt text) should be added to every image you insert into a document. Alternative text helps people with screen readers understand the content of pictures. Both a Title and Description can be added. However some screen reading applications do not read the Title field, so be sure to enter your text into the **Description** field. Your description should not be just a description of the image characteristics, but rather a summation of the intended meaning or content you are trying to convey in the image.

1. To add alt text, **right-click** on the image and select **Format Picture**.

2. Click the **Layout & Properties** icon from the left menu.

3. Choose **ALT TEXT**, enter a **Description**.

4. Click the **X** in the upper right corner to close.
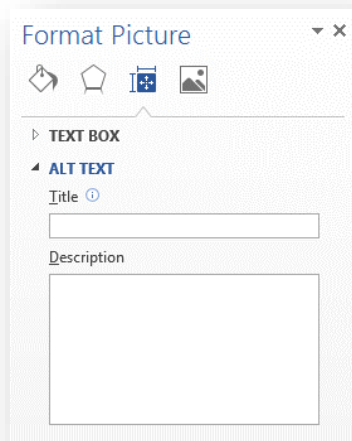
More details on appropriate Alternative Text practices are available online (http://webaim.org/techniques/alttext/).

Complex Images

Complex images may require more than ALT TEXT. If the image is of a graph or chart that is visually complex but simple data, simply provide a brief summary of the data as ALT TEXT. However, if this is insufficient in conveying the full meaning of the image, consider other options:

- Use a caption.
- Add description in surrounding text.
- Provide a link to supporting text.

Additional details in making complex images accessible is available online:
http://www.w3.org/WAI/tutorials/images/complex/.

Do you teach in a STEM field? Review these guidelines for describing STEM images:
http://ncam.wgbh.org/experience_learn/educational_media/stemdx/guidelines.

PowerPoints

When creating presentations in PowerPoint:

- Verify all content appears in "Outline View" – this is what a screen reader will find and read out loud.
- Use a unique title for each slide.

- Use Layout function to change the format of the place holders on the slide.
- Avoid inserting your own text boxes: if you are using an older version of PPT, the text box will be skipped by a screen reader. If you have 2016, be sure to add ALT text.
- Consider offering a text-only version of your PowerPoint. Save your PPT as an Outline in an RTF file and add additional text that was in your ALT text for images, graphs, or text boxes. Then save as a PDF.
- Add Alt text to images and charts/graphs.
- Link out to media rather than embedding. This is due to the variation of media players when embedding media clips. Generally, the linked media has better media controls.
- Add a link to the media in the Speaker notes.
- Provide a transcript if using audio or other media.
- Make sure you can access all content using the keyboard.

Accessibility Checker

Ensure documents you create are accessible to those using assistive technology. **MS Word and PPT** have built-in Accessibility Checkers (https://support.office.com/en-us/article/Check-for-accessibility-issues-a16f6de0-2f39-4a2b-8bd8-5ad801426c7f).

In **Adobe Acrobat Pro and Adobe Reader** you can check for accessibility issues using the **Read Out Loud** function found under the **View** menu (https://helpx.adobe.com/reader/using/accessibility-features.html).
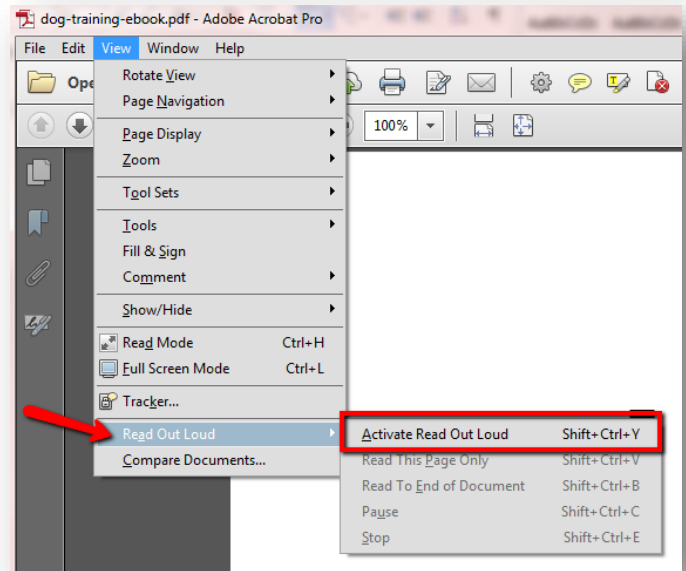
In Word or PPT:
Go to **File** + **Info** + **Check for Issues** + **Check Accessibility**.
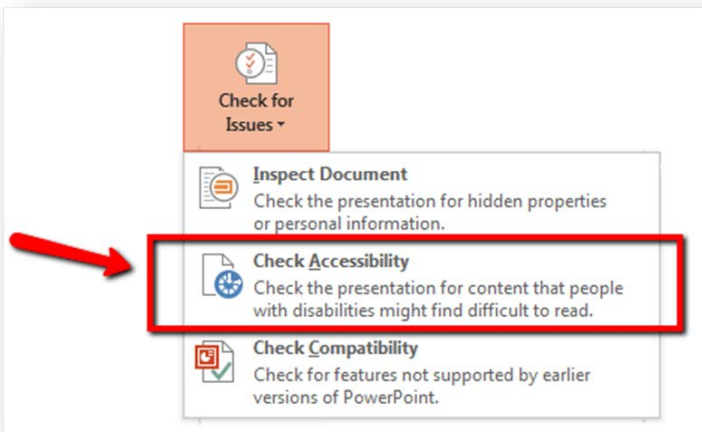
In Adobe Acrobat:
Go to **View** + **Read Out Loud** + **Activate**.

Several web page checkers exist for assessing the accessibility of HTML pages, including **WAVE** (https://wave.webaim.org/) and **508 Checker** (http://www.508checker.com/). Additionally, manual testing can be completed by navigating through the page using only keyboard commands rather than a mouse.

Many evaluation resources exist to help you check the accessibility of a webpage (http://www.w3.org/WAI/eval/Overview.html).

Multimedia

Audio Content

If you create audio content and post in your course. Be sure to post a corresponding transcript. If you started with a script before recording, then BINGO, you're all set up with a transcript! But if you are like many of us and record on the fly, then you will need to transcribe after the fact. There are several options:

- Manually transcribe as you listen.
- Run the MP3 file through Dragon Naturally Speaking.
- Run the MP3 file through YouTube.
- Hire third-party transcription services.

With any solution, there is likely to be a fair amount of resources spent – either time or money.

If you are using recorded content other than your own, check the website/vendor where you found the media; transcripts are often already available or can be made available by request.

Videos Created By Someone Other Than You

As with audio files, if you are using videos created by someone other than you, and captions or a transcript are not already available, consider contacting them to request an accessible version of the video or a transcript.

It is easiest to find videos that are already captioned. However, if you regularly turn on the captions for videos, you may have noticed they are not always accurate. To be truly useful, captions need to be nearly 100% accurate. Auto-captioned videos are often rather inaccurate. On YouTube, you can actually search for manually captioned videos, which are far more accurate.\
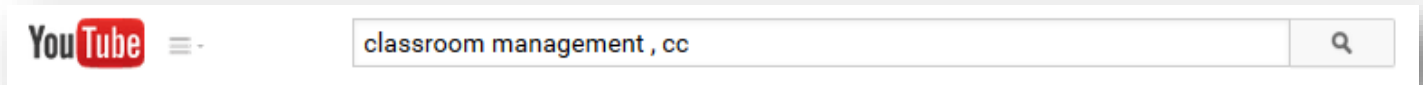
When searching in YouTube, add a comma and the letters 'cc' after your search term, i.e. classroom management, cc.

Creating Your Own Videos

To make things easier on yourself, write a script! This script can be posted as a transcript and also copy/pasted into many video editing platforms to serve as captions. Also, make sure to keep your videos SHORT! Videos that are 3-5 minutes in length can be quite effective! Shorter videos are easier to search and re-watch portions for students who return to the videos when studying/reviewing a particular concept/topic.

If you are creating your own video, there are multiple ways you can add captioning. YouTube offers multiple means for you to add captions videos you've uploaded MP4s into the Video Manager. The most useful options are Transcribe and Auto-Caption.

- Transcribe & auto-sync and Create new subtitles
  - These two options are similar in that they allow you to manually add subtitles/captions to your videos. You can choose to listen and transcribe as you listen. Or, if you already have a script written that you used while recording, you can copy/paste those in as subtitles.
- Auto-Captioning
  - This option will automatically caption your video, and then allow you to make edits to add punctuation, and fix errors in translation. This option will only work if the audio quality is high enough for YouTube to pick up your speaking voice.

- Directions for captioning in YouTube are available online
  (https://support.google.com/youtube/answer/2734796?hl=en).

As you caption in YouTube, a caption/subtitle file will be created. If you prefer not to host your videos from YouTube but would rather host them from your campus's own streaming server, you also have the option of keeping them listed as Private (so no one else can view them). But then take advantage of the caption file that was created. Some streaming media/lecture capture systems allow you to upload a specially formatted caption file (i.e. .SRT format). These files can be downloaded from YouTube, and uploaded into other programs that accept them (i.e. Camtasia, Panopto, Kaltura MediaSpace, etc.)
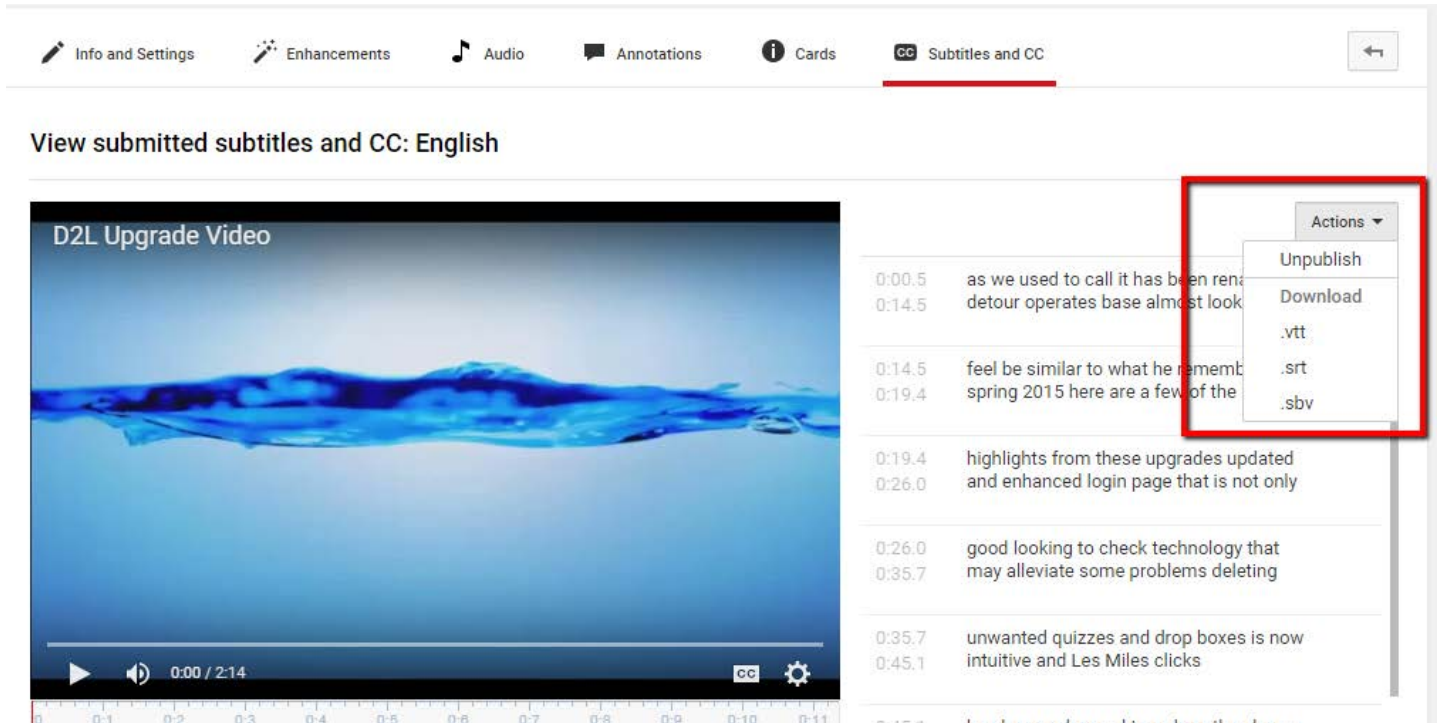
Although, other video streaming/lecture capture programs now often have their own captioning solution. Depending upon the version you are using, you may have the option for mechanical captions/speech to text (which you can edit), manually captioning, or uploading and SRT file (created in and downloaded from YouTube).

- Panopto
    o Uploading an SRT file to Panopto: http://support.panopto.com/content/can-i-upload-transcripts-or-captions
    o Manual captioning in Panopto: http://support.panopto.com/documentation/editing/advanced-editor-usage-1
    o Auto-Captions in Panopto: https://support.panopto.com/articles/Documentation/ASR-Generated-Captions
- Camtasia
    o Adding captions in Camtasia: https://www.techsmith.com/tutorial-camtasia-8-speech-to-text.html
    o Importing SRT file in Camtasia: https://support.techsmith.com/hc/en-us/articles/228199508-Import-or-Export-Captions
- Kaltura MediaSpace
    o Closed Captioning in MediaSpace: https://learn.winona.edu/Closed_captioning_in_MediaSpace

Self Help Resources

These resources provide great tips and explanations. Take advantage of them!

- [Portland Community College](#) (http://www.pcc.edu/resources/instructional-support/access/)

- [U of M Accessibility: Advancing Access for Everyone](#) (http://accessibility.umn.edu/)

- [WebAim](#) (http://webaim.org/)

- [The Center for Universal Design in Education](#) (http://www.washington.edu/doit/programs/center-universal-design-education/overview)

- [National Center on UDL](#) (http://www.udlcenter.org/)

Additional Resources

[W3C - Web Accessibility Initiative](#) (http://www.w3.org/WAI/gettingstarted/Overview.html)

[DO IT (University of Washington, Seattle)](#) (http://www.washington.edu/doit/)

[The National Center on Disability and Access to Education (NCDAE) - Cheatsheets](#) (http://ncdae.org/resources/cheatsheets/)

[AHEAD (Association on Higher Education and Disability) - Universal Design Resources](#) (http://www.ahead.org/resources/universal-design/resources)

[Universal Design in Higher Education](#), by Sheryl E. Burgstahler (http://www.washington.edu/doit/universal-design-higher-education-promising-practices)

[ACT Center (University of Missouri)](#) (http://actcenter.missouri.edu/accessibility/documents.html)

[Accessibility site (University of Minnesota)](#) (http://accessibility.umn.edu/home.html)

[Faculty Course Preparation Guide (University of Montana)](#) (http://www.umt.edu/accessibility/getstarted/faculty.php)

[Accessibility site (University of Montana)](#) (https://www.umt.edu/accessibility/)

[Creating Accessible Documents (University of Montana)](#) (http://www.umt.edu/accessibility/getstarted/documents/default.php)

[Web Accessibility Guidelines handbook (Portland Community College)](#) (http://www.pcc.edu/about/accessibility/)

[Accessibility for Online Course Content (Portland Community College)](#) (http://www.pcc.edu/resources/instructional-support/access/)

[Creating Accessible Microsoft Office Documents](#) (http://www.lynda.com/Excel-tutorials/Creating-Accessible-Microsoft-Office-Documents/186696-2.html)

[Creating Accessible PDFs](#) (http://www.lynda.com/Acrobat-tutorials/Creating-Accessible-PDFs/147579-2.html)

Web Accessibility Principles (http://www.lynda.com/Dreamweaver-tutorials/web-accessibility-principles/448-2.html)

Web Accessibility Trainings (Portland Community College) (http://www.pcc.edu/resources/instructional-support/access/trainings.html)

Introduction to Screen Readers (https://www.youtube.com/watch?v=o_mvO6EQ0tM)

Guidelines for Describing STEM Images (http://ncam.wgbh.org/experience_learn/educational_media/stemdx/guidelines)

Effective Practices for Description of Science Content (http://ncam.wgbh.org/experience_learn/educational_media/stemdx)

How Do We Access Meaning in Art? Describing art images in alt text (http://www.artbeyondsight.org/handbook/acs-onlinetraining.shtml)

AHEAD: Assoc. on HE and Disability 2016 Conference Handouts (https://www.ahead.org/conferences/2016/handouts)

10 Tips for Meaningful Links (http://4syllables.com.au/resources/link-tips/)