Digital Accessibility

WINONA STATE UNIVERSITY
COLLEGE OF EDUCATION
Leadership Education Department

DIGLITCON 2023

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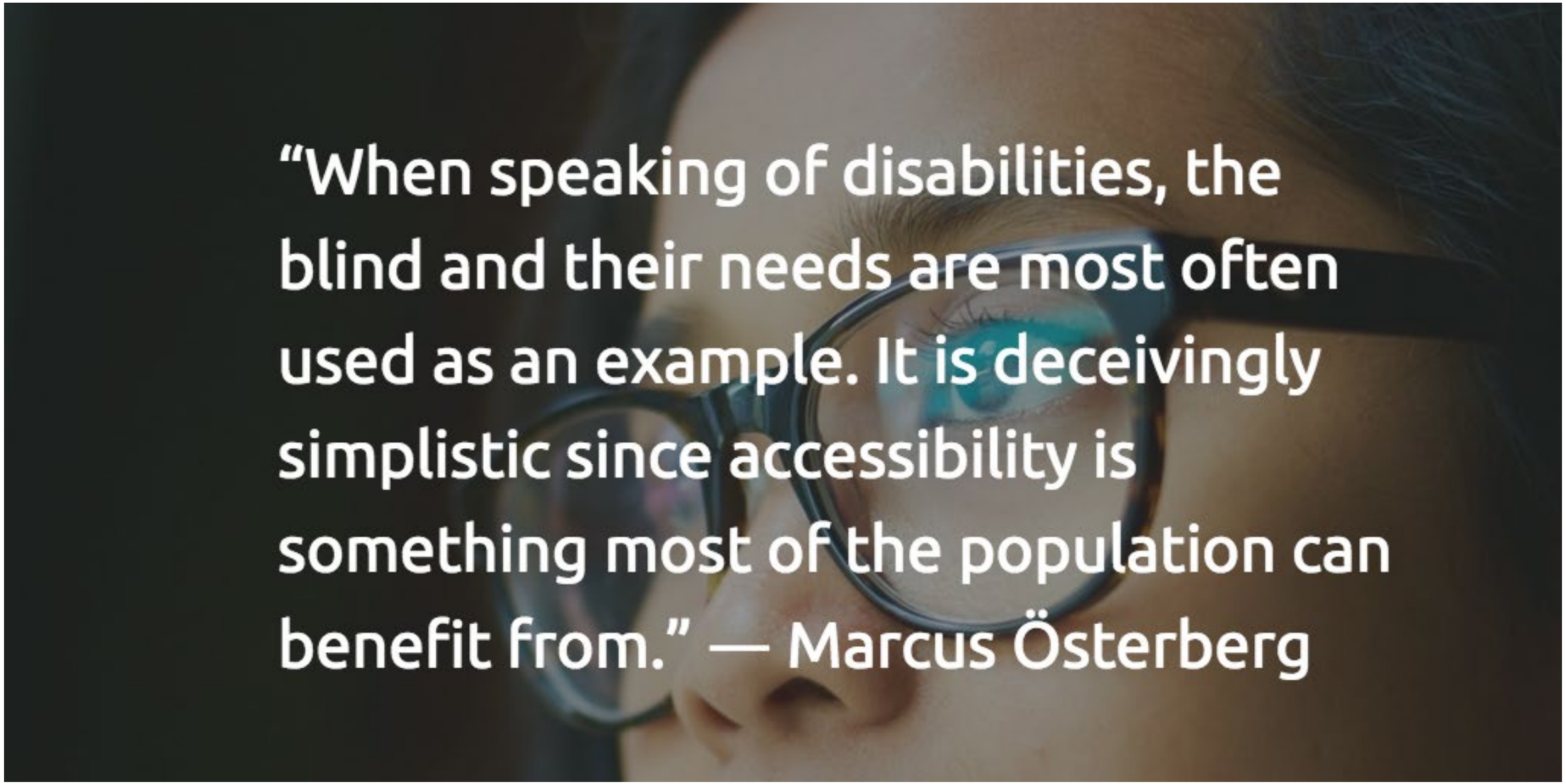


Marcus Österberg @osterbergmarcus

Basic Accessibility Issues

- Use accessibility checkers in Office and other productivity software
- Use WebAIM or another web-based accessibility check
- Use closed captions and audio transcripts in videos
- Consider translation sites for ESL students/parents

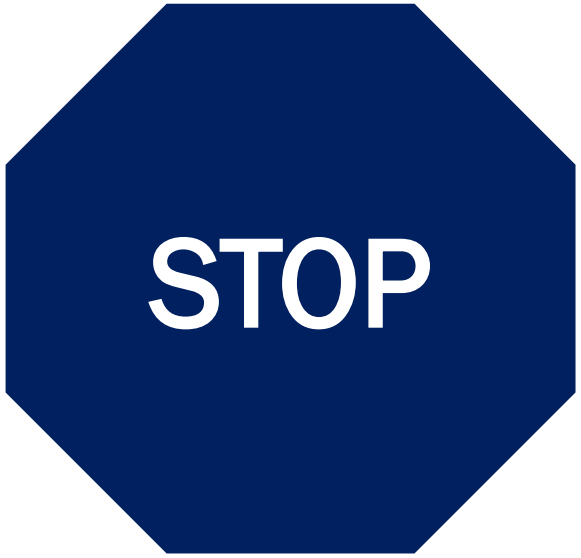
Color Contrasts

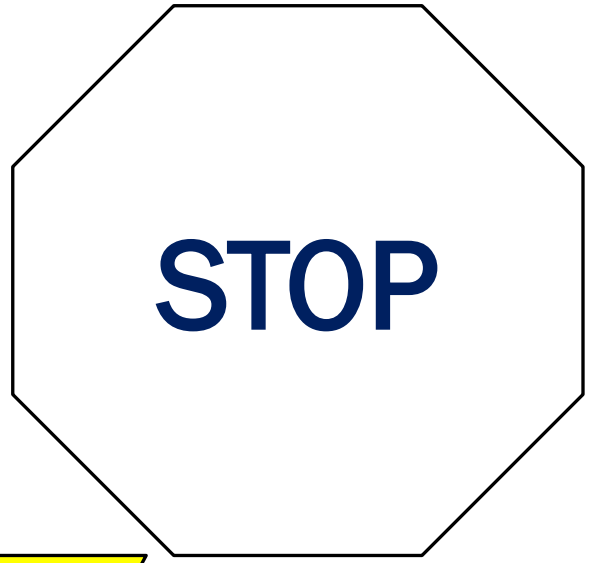
WCAG 2.0 level AA requires a contrast ratio of at least 4.5:1 for normal text and 3:1 for large text. WCAG 2.1 requires a contrast ratio of at least 3:1 for graphics and user interface components (such as form input borders). WCAG Level AAA requires a contrast ratio of at least 7:1 for normal text and 4.5:1 for large text.

Large text is defined as 14 point (typically 18.66px) and bold or larger, or 18 point (typically 24px) or larger.

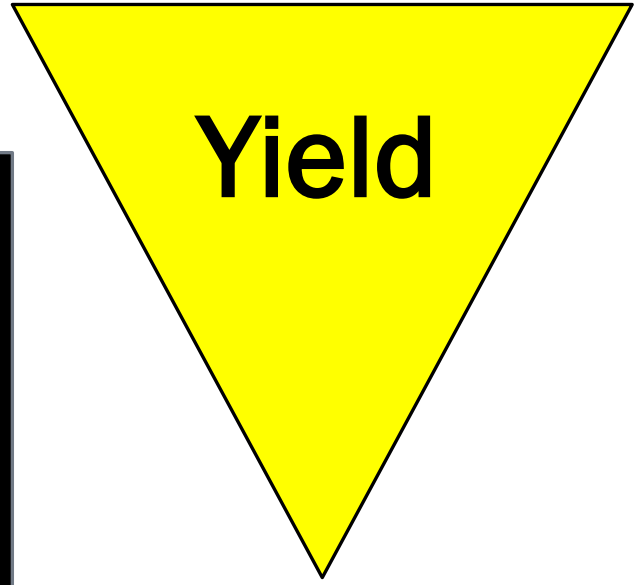
Hint: Colorzilla is an excellent tool for extracting the color value from any page element. Additionally, WAVE can analyze contrast ratios for all page text elements at once.

Use this link contrast checker to evaluate links that are identified using color alone.


STOP


STOP

GOOD
CONTRAST


Yield

Not
Good
Enough

Home > Resources > Contrast Checker

Foreground Color

#FFFFFF

Lightness

Background Color

#4B08A1

Lightness

Contrast Ratio

11.36:1

permalink

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Large Text

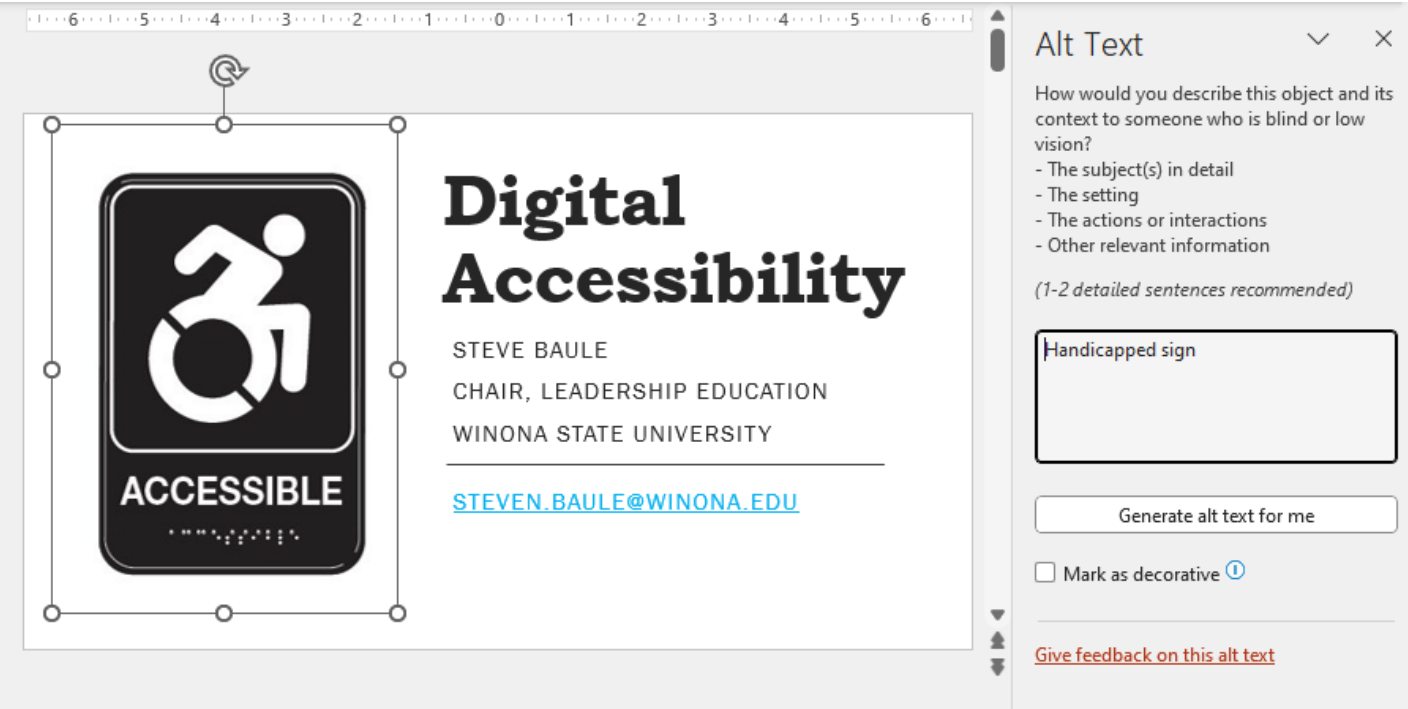
WCAG AA: **Pass**

WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Graphical Objects and User Interface Components

Alternative Text for Images



Informative Links not “click here”

Screen readers can scan for links, so informative link text is helpful. It's best to use the title of the page as the linked text. For example, if you link to your profile page, the linked text should say "my profile," not "click here."

Alt Text

How would you describe this object and its context to someone who is blind or low vision?
- The subject(s) in detail
- The setting
- The actions or interactions
- Other relevant information

(1-2 detailed sentences recommended)

A picture containing icon

Description automatically generated

Approve alt text

Mark as decorative

Give feedback on this alt text

Informative Links not “click here”

Screen readers can scan for links, so informative link text is helpful. It's best to use the title of the page as the linked text. For example, if you link to your profile page, the linked text should say "my profile," not "click here."

This Photo by Unknown Author is licensed under CC BY-NC

In Blackadder ITC Script

- AVOID ALL CAPITALS
- Use left (or right) justified text
- Use plain fonts
- Avoid scripts, italic and decorative fonts
- Be consistent
- Use as large of a font as reasonable

Text Size and Alignment

- AVOID ALL CAPITALS
- Use left (or right) justified text
- Use plain fonts
- Avoid scripts, italic and decorative fonts
- Be consistent
- Use as large of a font as reasonable

Best Fonts for Presentations

- Verdana
- Calibri
- Palatino
- Tahoma
- Georgia
- Raleway
- Gill Sans
- Corbel
- Segoe
- Garamond
- Century Gothic

Minimum Font Size

- To determine the minimum font size for accessible media, the distance from the most distance seat should be measured in inches.
- That number multiplied by 0.11 will give the minimum projected height of an accessible font in inches. So in a room where the farthest seat is 20 feet away, the minimum projected height would be 2.64 inches.

Use Text Not Formatting

- Don’t rely on color or *other formatting alone* to identify important points
- Add text such as important, critical, etc.

Use Bullets not Narrative listings

Colors you can use:

- Red
- Blue
- Green
- Yellow
- Brown

Colors you can use for this project include, red, blue, green, yellow, and brown

Use Navigation Landmarks

These include:

- Page numbers
- Headers and footers
- Headings

Tables

- Tables should be used for data only, not for layout.
- Make tables as simple as possible — they should have no merged or split cells.
- Complex tables should be broken down into multiple simple tables.
- Tables in Word should always contain a header row.
- Table rows shouldn’t split across multiple pages.
- Tables should include Alt Text to describe its content or structure for those who cannot see it.

Grade Distribution

Letter Grade	Percentage
A	90 – 100%
B	80 – 89.99%
C	70 – 79.99%
D	60 – 69.99%
F	< 60%

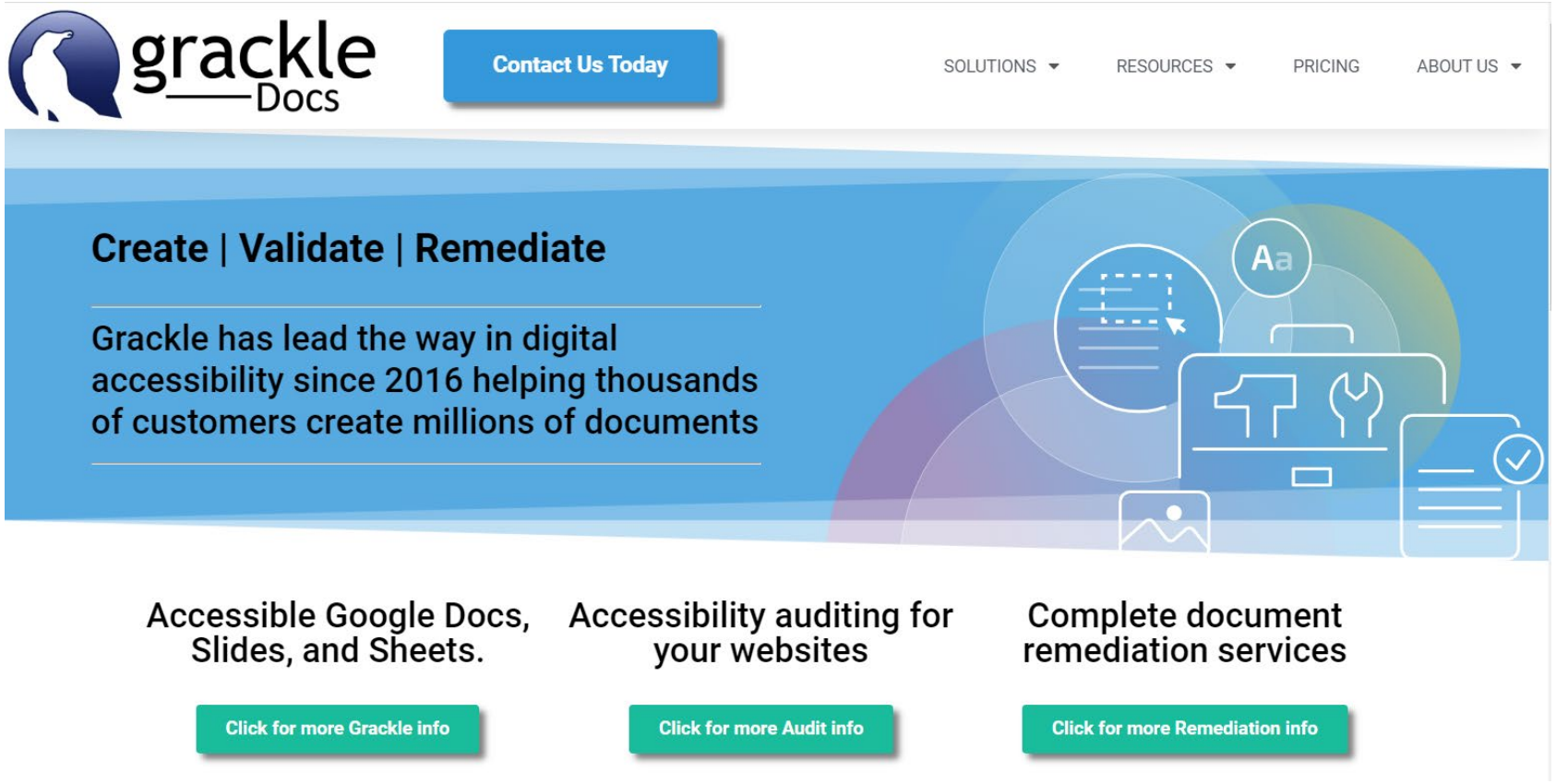
From: Create Accessible Tables in MS Word - eSAIL (tamu.edu)

Google Accessibility

Tools: Use the Google developer tools to determine if the color contrast on my current page follows the WebAIM rules. Under “Audits”, you can check “Accessibility” to run an audit your current webpage.

Google does provide some accessible templates; search for templates using the term accessible.

Google has no Accessibility Checker



Don’t “Fake” Tables

[Create Accessible Tables in MS Word - eSAIL (tamu.edu)]

Ice Cream Preferences

Flavor	Dislike	Neutral	Like
Pistachio	9	13	4
Vanilla	13	6	7
Strawberry	10	10	6
Chocolate	6	5	15
Cookie Dough	9	7	10
Mint Chocolate Chip	8	10	8
Vanilla Bean	13	7	6
Butter Pecan	10	8	8
Cake Batter	12	4	10

How a screen reader will read it:

Ice cream preferences, Flavor, Dislike, Neutral, Like, Pistachio, 9, 13, 4, Vanilla, 13, 6, 7, Strawberry, 10, 10, 6, Chocolate, 6, 5, 15, Cookie Dough, 9, 7, 10, Mint Chocolate Chip, 8, 10, 8, Vanilla Bean, 13, 7, 6, Butter Pecan, 10, 8, 8, Cake Batter, 12, 4, 10.

Converting Google Docs

Google Docs to PDF

At this time Google Docs are not able to produce accessible PDF versions. If you export your Google Docs file as a PDF document, the accessibility information will not be included in the resulting PDF version. Instead, download your Google Doc as a Microsoft Word file to run the Accessibility Checker and convert to an accessible PDF.

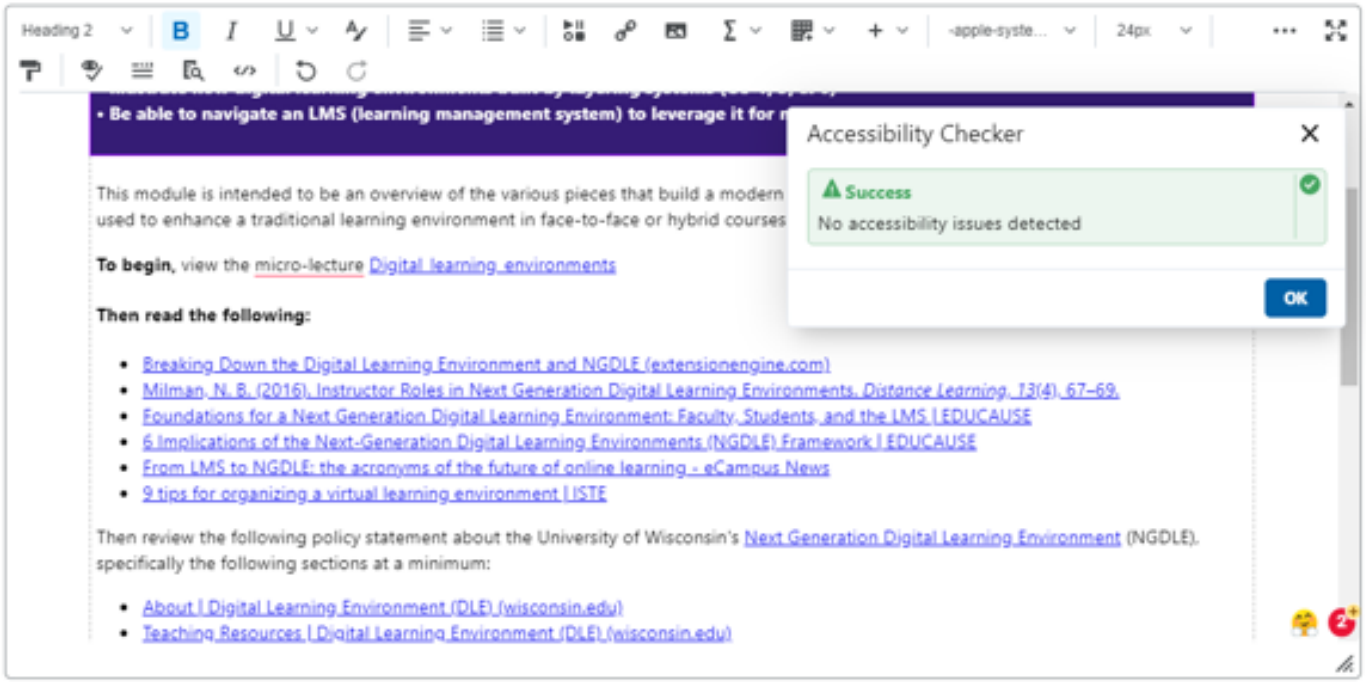
https://uit.stanford.edu/accessibility/guides/google-docs

https://it.umn.edu/services-technologies/how-tos/google-docs-use-accessibility-checker

Complete the following steps to run the Office Accessibility Checker:

1. Open the Word document.
2. Select the File tab.
3. Select Info from the left-hand menu.
4. Click the Check for Issues button.
5. Select Check Accessibility from the drop-down menu.
6. Review the list of potential errors in the Accessibility Checker panel.

D2L Accessibility checker



Accessibility

Inspection Results

Check reading order

Slide 1
Slide 2
Slide 6
Slide 7
Slide 10

Tips

Duplicate slide title

Color contrasts (Slide 6)

Keep accessibility checker running while I work

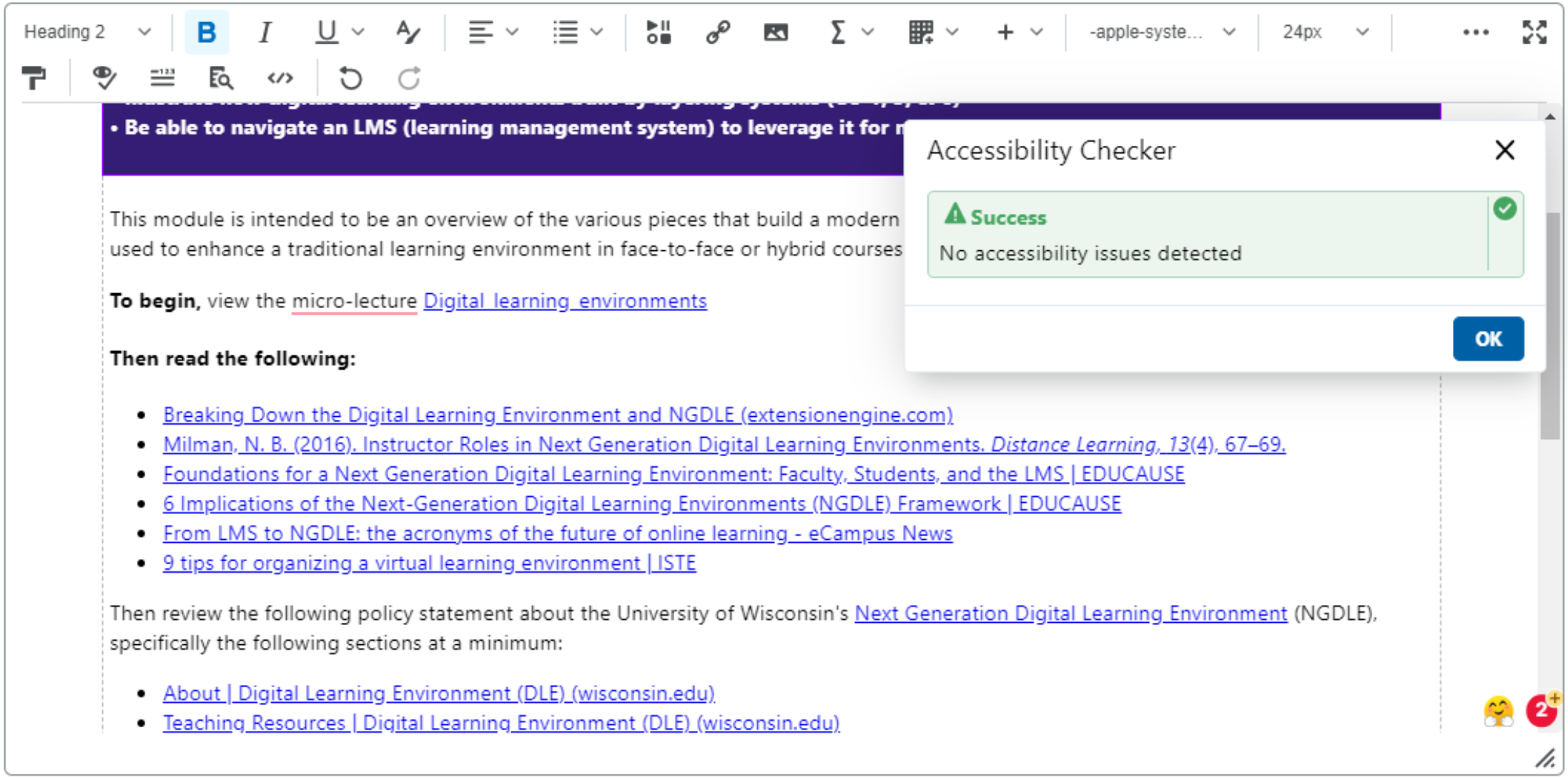
Additional Information

Why Fix?

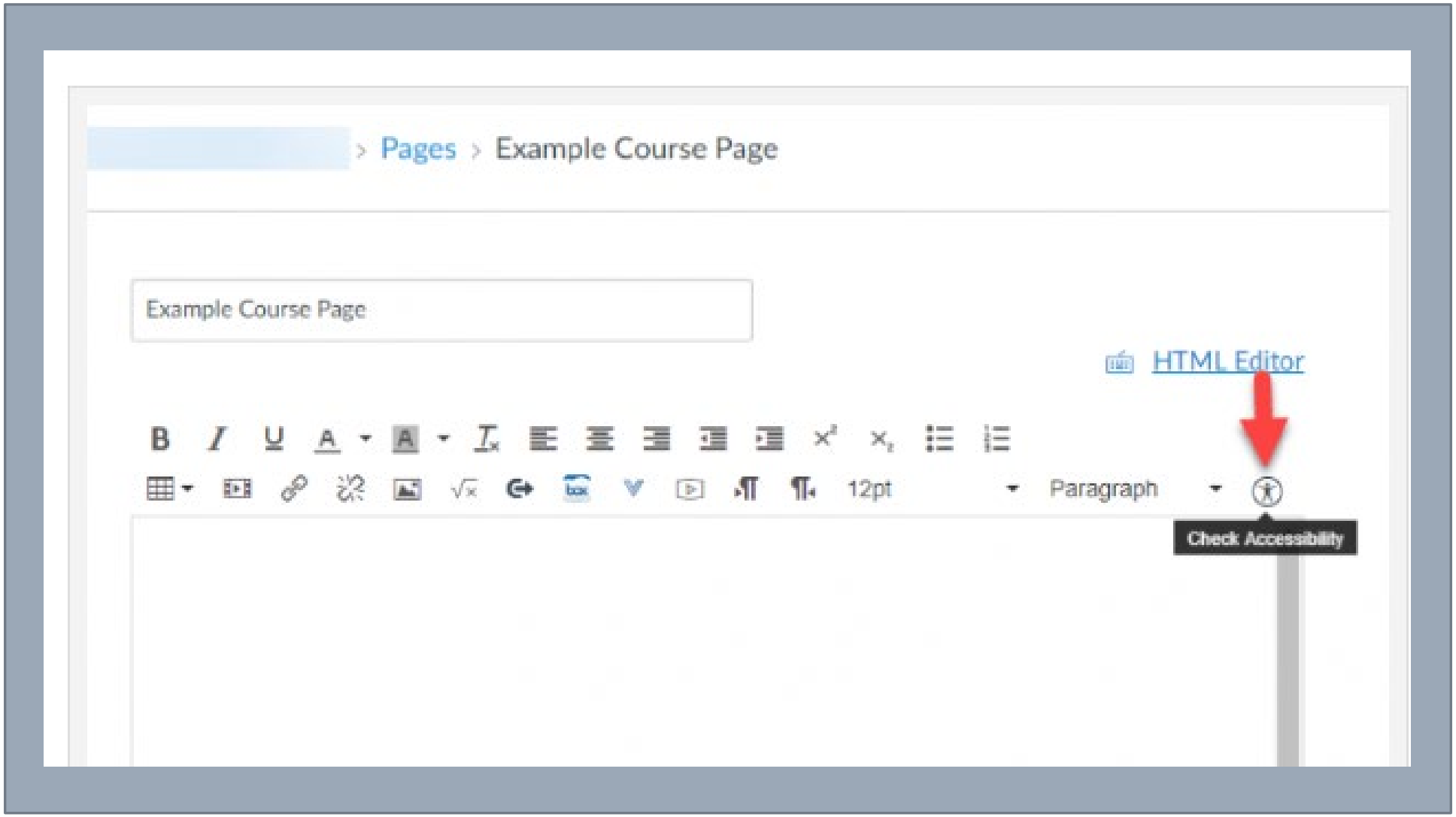
People who cannot view the slide will hear slide text, shapes, and content read back in a specific order. You should verify that the reading order and labels will make sense in the order they will be read back.

Steps To Fix:

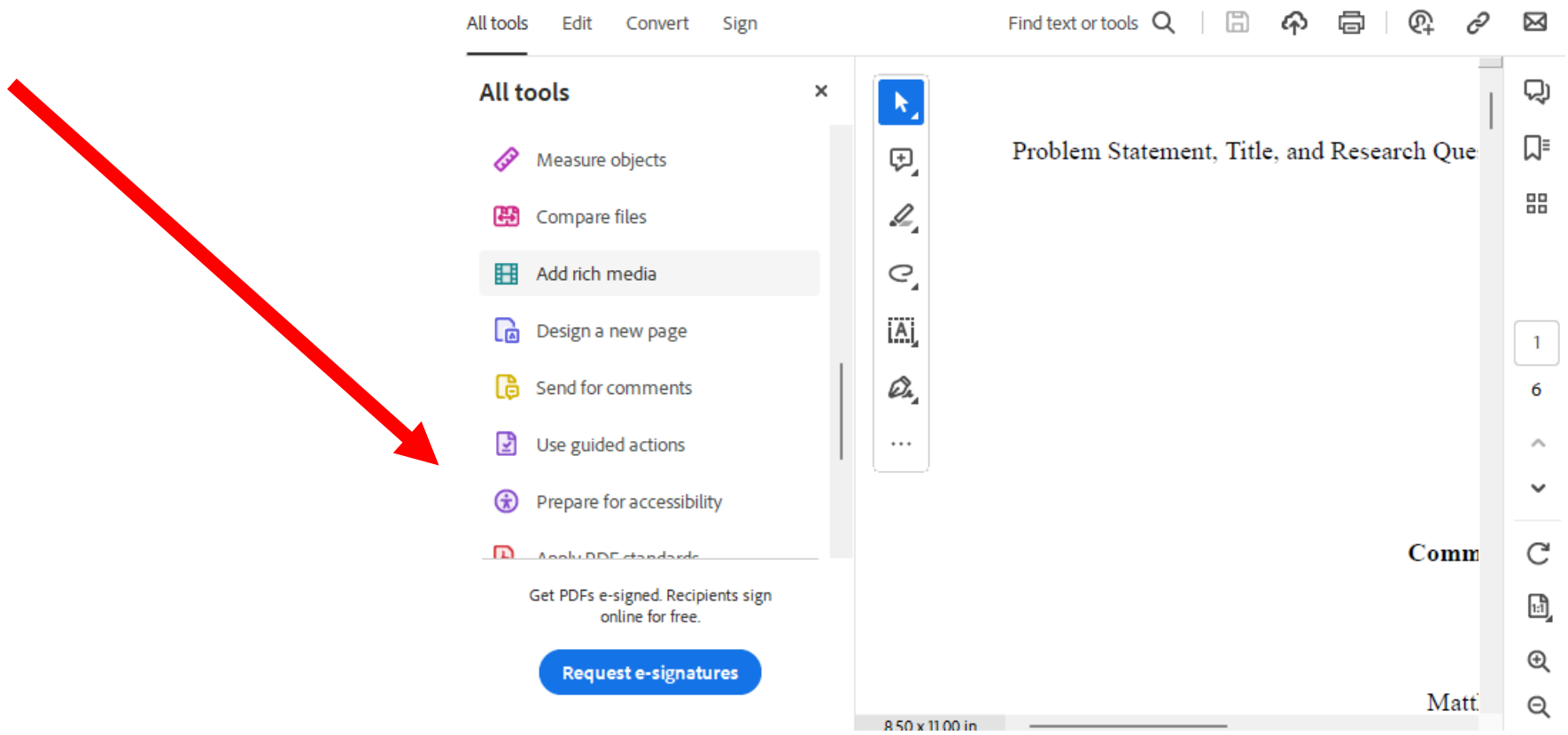
D2L Accessibility checker



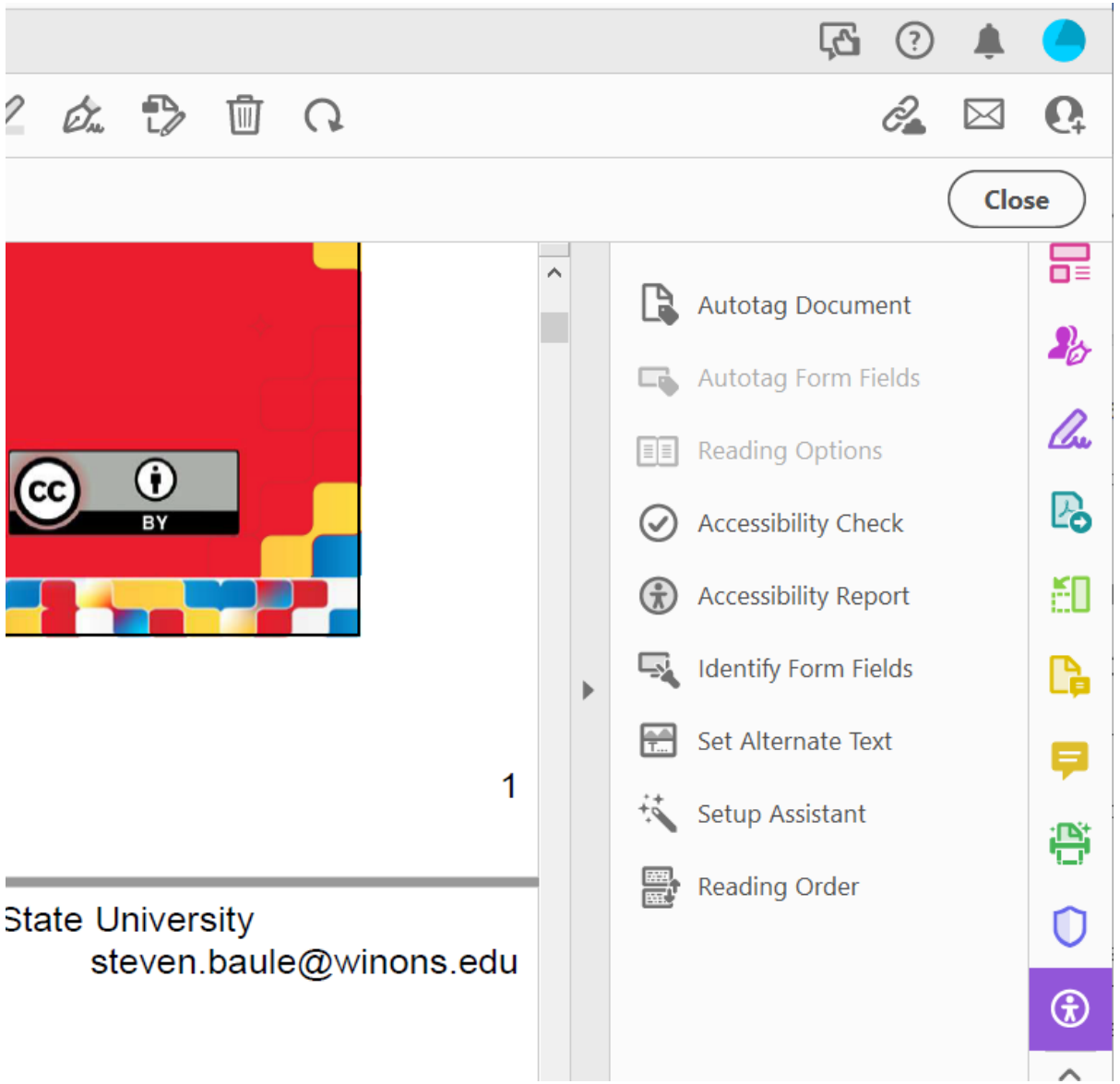
CANVAS


Pages
Example Course Page
Example Course Page
HTML Editor
12pt
Paragraph
Check Accessibility

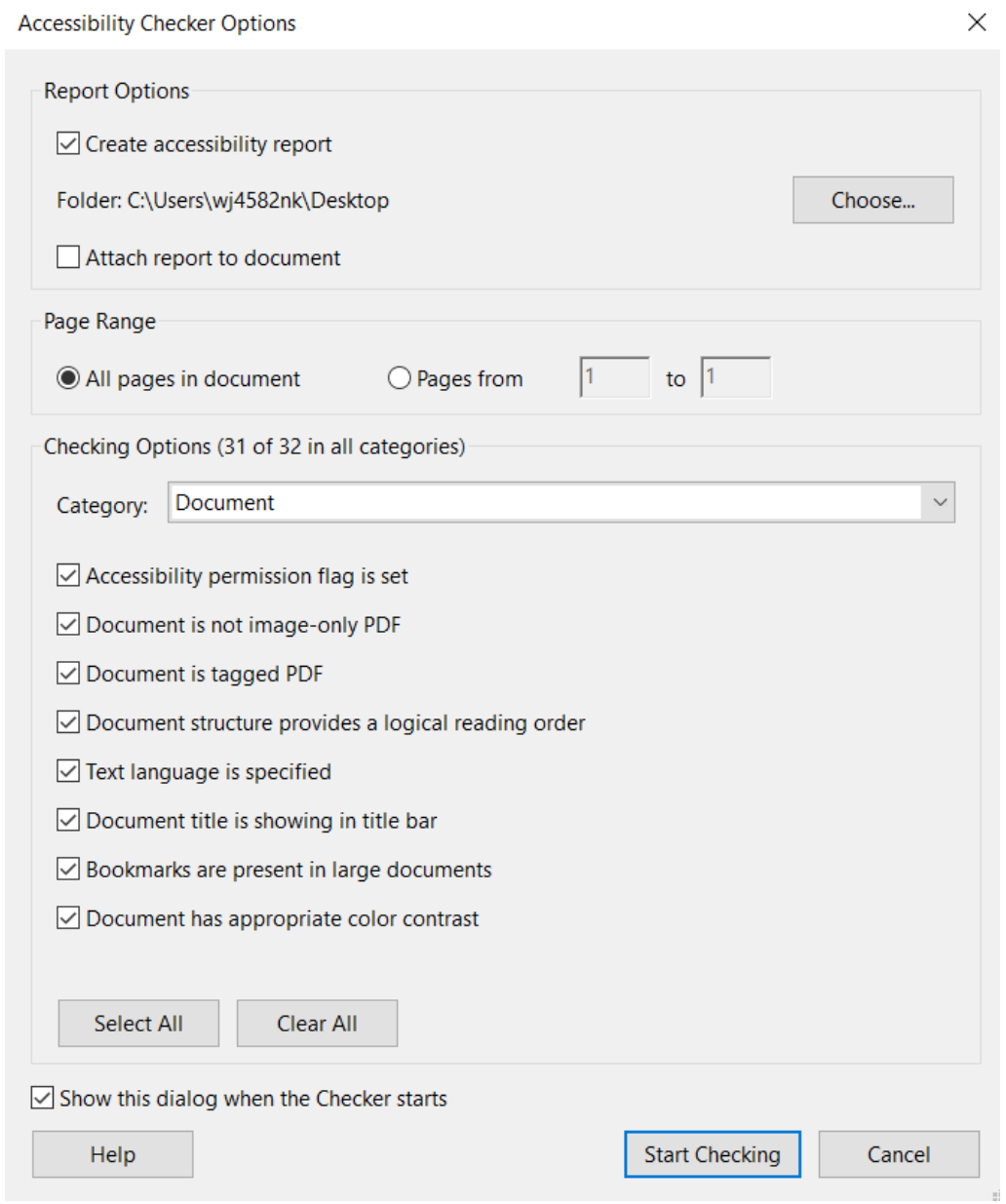
Acrobat


All tools
Edit
Convert
Sign
Find text or tools
All tools
Measure objects
Compare files
Add rich media
Design a new page
Send for comments
Use guided actions
Prepare for accessibility
Get PDFs e-signed. Recipients sign online for free.
Request e-signatures
Problem Statement, Title, and Research Que
Comm
Matt
8.50 x 11.00 in
1
6

Accessibility Options



Acrobat Accessibility Checker Dialog Box



Accessibility Report

Filename: 16.20_EDS 691, 692, 693 Syllabus.pdf

Report created by: [Enter personal and organization information through the Preferences > Identity dialog.]
Organization:

Summary

The checker found problems which may prevent the document from being fully accessible.

- Needs manual check: 2
- Passed manually: 0
- Failed manually: 0
- Skipped: 1
- Passed: 13
- Failed: 16

Detailed Report

Document

Rule Name	Status	Description
Accessibility permission flag	Passed	Accessibility permission flag must be set
Image-only PDF	Passed	Document is not image-only PDF
Tagged PDF	Failed	Document is tagged PDF
Logical Reading Order	Needs manual check	Document structure provides a logical reading order
Primary language	Failed	Text language is specified
Title	Failed	Document title is showing in title bar
Bookmarks	Passed	Bookmarks are present in large documents
Color contrast	Needs manual check	Document has appropriate color contrast

Page Content

Rule Name	Status	Description
Tagged content	Failed	All page content is tagged
Tagged annotations	Passed	All annotations are tagged
Tab order	Passed	Tab order is consistent with structure order
Character encoding	Passed	Reliable character encoding is provided
Tagged multimedia	Passed	All multimedia objects are tagged
Screen flicker	Passed	Page will not cause screen flicker
Scripts	Passed	No inaccessible scripts
Timed responses	Passed	Page does not require timed responses
Navigation links	Passed	Navigation links are not repetitive

Forms

Rule Name	Status	Description
Tagged form fields	Passed	All form fields are tagged
Field descriptions	Passed	All form fields have description

Alternate Text

Rule Name	Status	Description
Figures alternate text	Failed	Figures require alternate text
Nested alternate text	Failed	Alternate text that will never be read
Associated with content	Failed	Alternate text must be associated with some content
Hides annotation	Failed	Alternate text should not hide annotation
Other elements alternate text	Failed	Other elements that require alternate text

Tables

Rule Name	Status	Description
Rows	Failed	TR must be a child of Table, THead, TBody, or TFoot
TH and TD	Failed	TH and TD must be children of TR
Headers	Failed	Tables should have headers
Regularity	Failed	Tables must contain the same number of columns in each row and rows in each column
Summary	Skipped	Tables must have a summary

Lists

Rule Name	Status	Description
List items	Failed	LI must be a child of L
Lbl and LBody	Failed	Lbl and LBody must be children of LI

Headings

Rule Name	Status	Description
Appropriate nesting	Failed	Appropriate nesting

Converting docs to PDF

If scanning documents, make sure they are not set up as images but are scanned or converted to fully OCR documents

Step by Step Acrobat directions

- Start with a clean copy of the document (free of markup or margin notes).
- When you scan, make sure to sure to use book scanners for bound materials and fed/bed scanners for single/multiple pages.
- Set the scanner to a higher resolution/quality when possible.
- Export PDFs directly from programs like Microsoft Word. Check for and enable accessibility options in those platforms before exporting.

Creating Accessible Materials | Dartmouth Center for the Advancement of Learning

Some Emerging AI/AT Tools

DeepL “The world’s most accurate translator” https://www.deepl.com/translator

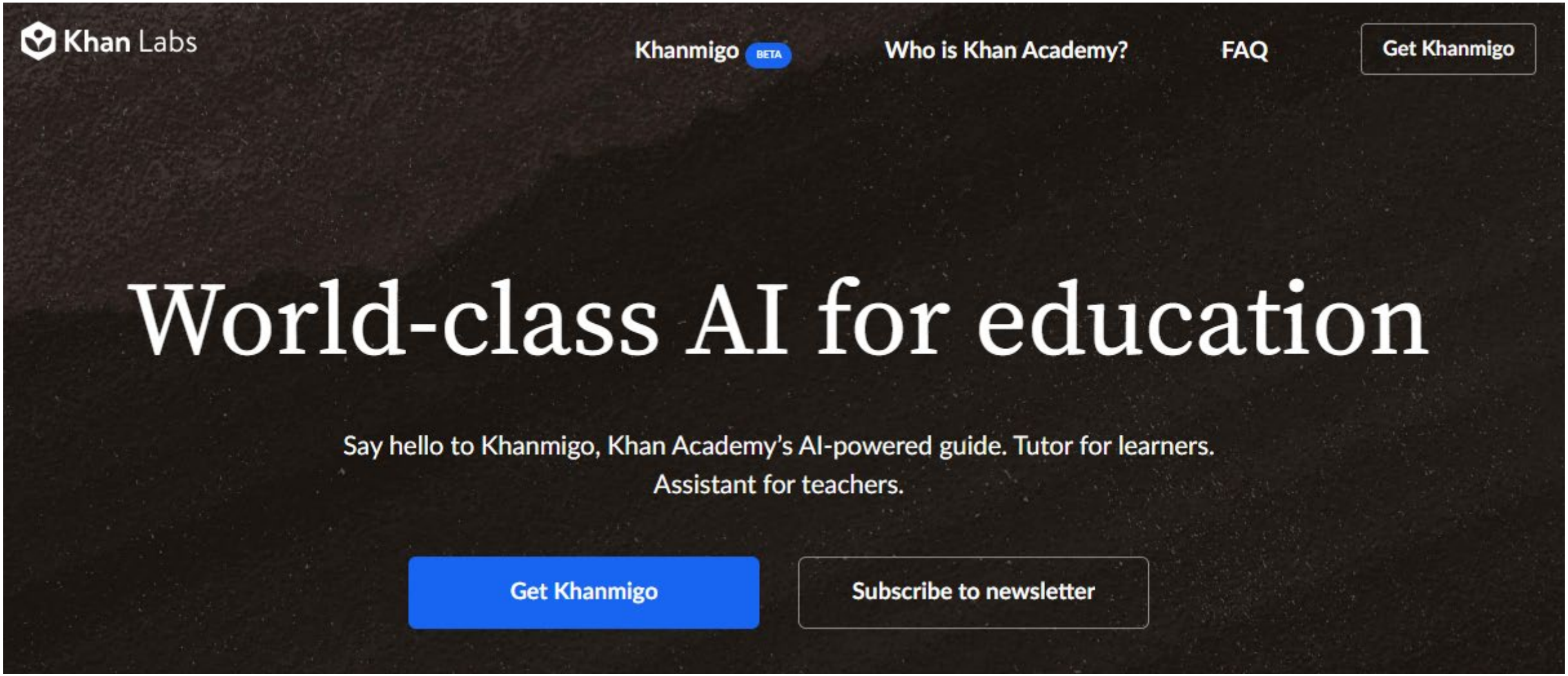
Google Translate https://translate.google.com/

Read/Write Gold https://www.dyslexic.com/product/read-write-gold-windows-dsa-digital-download/

Google Lens (see it and describe it – I wonder how this would work on field trips) https://lens.google/

Microsoft Seeing AI https://www.microsoft.com/en-us/ai/seeing-ai

Khanmingo https://www.khanacademy.org/khan-labs


Khan Labs
Khanmigo BETA
Who is Khan Academy?
FAQ
Get Khanmigo
World-class AI for education
Say hello to Khanmigo, Khan Academy's AI-powered guide. Tutor for learners.
Assistant for teachers.
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Additional Materials

- Creating Accessible Materials | Dartmouth Center for the Advancement of Learning
- Apple Accessibility Resources
- Microsoft 365 Blog Accessibility Resources
- Google Make your document or presentation more accessible
- National Instructional Materials Accessibility Standard (NIMAS)
  - Questions and Answers on the National Instructional Materials Accessibility Standard (PDF). (ed.gov)
- The Nora Project – Information about inclusive classroom development
- UDL: The UDL Guidelines (cast.org) – overview of UDL Guidelines from CAST
- The DAISY Consortium – accessibility of digital talking books

Contact Information

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WINONA STATE UNIVERSITY
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