Enhancing the Usability and Accessibility of Course Materials for Diverse Students and Technologies

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Students Today Are Diverse

- Ethnicity, Culture, Gender
- Nontraditional
- English Language Learners
- Learning / Cognitive Styles
- Disabilities
Types of Disabilities

Apparent
- Mobility Impairments
- Visual Impairments / Blindness
- Hearing Impairments / Deafness

Non-apparent
- Learning Disabilities
- Attention Deficit Disorder (ADD/ADHD)
- Autism Spectrum Disorder
- Traumatic Brain Injury (TBI)
- Post Traumatic Stress Disorder (PTSD)
- Mental Illness
• Apparent disabilities

• Non-apparent

$\frac{2}{3}+$
Nationally, 11.3% of undergraduates report some type of disability\(^1\)

At Colorado State University\(^2\)
- 8%–11% report a disability
- Non-apparent disabilities are the largest proportion and growing
- Even among students who say they have a disability, many do not seek accommodations

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\(^1\)National Center for Education Statistics, 2008; U.S. Government Accountability Office, 2009
\(^2\)Schelly, Davies & Spooner, *Journal of Postsecondary Education and Disability* (Feb. 2011)
Students Seeking Services at CSU

- **Students Identifying with RDS**

![Graph showing students identified with RDS by year for Fall, Spring, and Total.

- **Students Identifying with the ATRC**

![Graph showing students identified with ATRC by year for Fall, Spring, and Total.]
Several universities recently faced legal action for course materials that are not accessible, including
- Penn State
- UC Berkley
- University of Colorado (May 2014)

DOJ is setting standards for website and electronic materials in current settlement agreements

CSU is committed to being proactive in improving access to all electronic materials for all students
Growing Need for Campus Involvement

- Steadily growing population of students with disabilities
- Diverse ways that students access electronic content, including
  - Course and Instructional Materials (Word documents, PDFs, PowerPoints, videos, podcasts, etc.)
  - Electronic Textbooks or Online Textbook Components
  - Electronic syllabi, quizzes, exams, homework, discussion boards
  - Websites
  - Content Management Systems (WordPress, etc.)
  - Mobile Devices

- It’s going to take all of campus working together
- Many are not even aware of what they can do
- Help us get the word out to faculty on the simple steps they can take
CSU Approach

• **Electronic Accessibility Guidelines – Adopted by Faculty Council**
  - Universal Design For Learning Strategy – benefits to all
  - Commitment to training for any and all individuals who create and work with websites and digital information, including faculty
  - Resources and tutorials made readily available at CSU website: [Accessibility By Design](http://accessibility.colostate.edu/)

• **Guidelines are in the process of becoming Policy**
  - Now is the time to prepare
Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

—Ron Mace, UD Institute
The Big Question: Can a wide variety of technologies interact with the electronic content?

Not Automatically!

Content must be designed to display well using technology such as:

- Mobile Devices
- Text-to-Speech Software (Listening to text)
- Voice Recognition Software (Dictation)
- Literacy Support Software (Study skills, highlighting, dictionaries, etc.)
- Screen Magnification Software (Used by students with low vision)
- Screen Reader Software (Used by students who are blind)

When content is designed to interact well with technology used by people with disabilities, it is accessible
Top Tips for Usable & Accessible Materials

1. **Scanned PDFs**
   - Make PDFs Searchable
   - Add Tags for Document Structure
   - Check Reading Order

2. **Use Headings & Styles to Create Outline Structure**
   - Canvas / Other Web
   - Word
   - PowerPoint

3. **Provide Descriptive Alternate Text for:**
   - Images, Graphs, Charts
   - Links
   - Video or Content (Transcript or Captions)

4. **Check One Setting for Conversion to PDF**
   - Saves accessibility features from the original document into the PDF
Making Searchable PDFs (or What is OCR?)

• OCR stands for “Optical Character Recognition.”
• Software that takes an image, finds the text, and converts it to computer-recognized text.
• Creates a document with text that is:
  • Searchable
  • Selectable
  • Text-to-Speech Capable
  • Text Resizable for Various Screen Sizes
  • More Usable for Everyone
Ways to Create a Searchable PDF

• OCR at the Scanner or Copier
  • Look for “Searchable PDF” or “OCR” options before saving.

• Morgan Library Course Reserves (http://lib.colostate.edu/)
  • Requested articles are OCRd for you and posted online for your entire class.
  • Click on the “Reserves” tab on the Library Homepage and login as an instructor using your eid.

• Save Existing PDF to Google Drive
  • Google Drive OCRs documents during conversion
  • Drawbacks: the document is no longer a PDF, formatting may be poor, and other accessibility is limited. Google Drive itself is not very accessible.

➢ Edit Existing PDF with Adobe Acrobat Professional
  • Two simple steps after the PDF has been created
  • Drawback: software is not yet available everywhere on campus
Three Steps to Searchable PDF with Adobe Acrobat Pro

1. Use the “Text Recognition” Tool
2. Add Tags Using the Accessibility Tool
3. Check Reading Order Using the TouchUp Reading Order Tool
4. Save Changes
Use Headings in Canvas / Web

- Format text using the provided styles for headings, lists, and paragraph text
- These choices are common in many HTML editors
- Start with the biggest heading available, and don’t skip levels
Use Headings and Styles in Word

- Use Headings to Provide Document Structure
  - Indicate Level of Importance
  - Don’t Skip Heading Levels
  - Check Your Table of Contents in the Navigation Pane

- Use numbered lists, bullet lists, etc. on the Home Tab

- Choose a Style

- Save Your Own Style as a Template
Use Slide Layouts in PowerPoint

• Use Slide Layouts instead of drawing text boxes

• Give Every Slide a Unique Title
  • Generates Table of Contents
  • Check Your Outline View

• Caution: If you add Text Boxes, slide reading order needs to be checked using **Home > Arrange > Selection Pane**
Writing Good Alt Text for Images

Consider Context. Ask yourself…

• What is the purpose of this image?
• If the image were removed, how would I convey the information using text?

Other Tips…

• Avoid redundant descriptions (e.g. “Image of”)
• Avoid repeating the text already surrounding the image
• Be concise
Context is Key

Consider the following image. How would the alt text change if the image is used for...

- Ice Cream Manufacturer
- Girl Scouts of America
- Diversity Website

Source: Jesse Hausler, ATRC & The ACCESS Project
Adding Alt Text in Canvas

When you insert an image in Canvas, add the text description in the “Alt text” box provided.
Adding Alt Text in Word and PowerPoint

- Right-Click on Image to Format Picture or Format Shape
- Select Alt Text menu
- Add the text in the Description field
Converting from Office to PDF

• Start with an Accessible Source Document

• Using Acrobat Professional Plugin
  • “Enable Accessibility and Reflow with Tagged Adobe PDF” in Plugin Preferences
  • Use “Save As PDF” or “Create PDF”
  • Avoid Printing to Adobe PDF in the Printers List!

• Using Microsoft Built-in Converter
  • “Document structure tags for accessibility” in “Save as” Options
Resources

Online Tutorials and Resources

CSU’s Accessibility By Design Website
http://accessibility.colostate.edu

The Access Project (Step-by-Step Tutorials)
http://accessproject.colostate.edu/udl

WebAIM Tutorials
http://webaim.org

Atomic Learning (Short Video Tutorials) — Login Required (Contact Allison)
http://www.atomiclearning.com/highed/

Information on ATRC Services

ATRC Website (http://www.atrc.colostate.edu)

To schedule accessibility training for your department, or for help with more complicated materials
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