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

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ATRC Services

- Direct Services to Students and CSU Employees
  - Assessments
  - Accommodations
  - Training
  - Equipment Loans
  - Resources
- Consultation
- Electronic Accessibility
- Faculty Resources
Who are college students today?
• Ethnicity & Culture
• Gender
• Nontraditional
• ELL/Native language
• Disabilities
• Learning/Cognitive Styles
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 vs non-apparent disabilities

- Apparent disabilities
- Non-apparent

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Disabilities in Higher Education

• 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

\(^1\)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

- Students Identifying with the ATRC
Department of Justice (DOJ): Setting a Standard

• DOJ is including standards for website and electronic materials accessibility in current settlement agreements
  • Requiring compliance with Level A Success Criteria in the Web Content Accessibility Guidelines 2.0 (WCAG 2.0) issued by the World Wide Web Consortium (W3C) in December 2008
  • DOJ is considering increasing the standard to WCAG 2.0’s Level AA Success Criteria. CSU is assuming this is going to happen.

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

• Growth in population of students with disabilities
• Growth in ways that students access electronic content, including mobile devices.
• Growth in digital systems and electronic materials
  • Websites
  • Course and Instructional Materials (Word documents, PDF documents, PowerPoint presentations, videos, podcasts, etc.)
  • Courseware, Software, and other Classroom Technologies
  • Content Management Systems (WordPress, etc.)
  • Search Engines
  • Databases
  • Registration and Grades
  • Financial and Human Resource Management Systems
  • Telecommunications
  • Emerging Technologies

➢ Growth in need for electronic accessibility from among all facets of campus — faculty, staff, purchasers, developers, content providers...
CSU Approach

• Electronic Accessibility Guidelines – Adopted by Faculty Council

• Universal Design For Learning Strategy

• Training for any and all individuals who create and work with websites and digital information, including faculty

• Resources on accessibility at CSU website
  • Accessibility By Design (http://accessibility.colostate.edu/)

• Guidelines are in the process of becoming Policy
Universal Design

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
So What Exactly is Accessibility?

- 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
  - Variety of Operating Systems / Software Versions
  - Text-to-Speech Software
  - Voice Recognition Software
  - Literacy Support Software (Study skills, highlighting, dictionaries, etc.)
  - Screen Reader Software (Used by students who are blind)

- **This is Accessibility**
Top Tips for Usable & Accessible Materials

1. Make Scanned PDFs “Searchable”
2. Use Headings & Styles to Create Structure
   • Canvas / Other Web
   • Word
   • PowerPoint
3. Provide Descriptive Alternate Text for:
   • Images
   • Links
   • Graphs
   • Video Content
   • Audio Content (Transcript or Captions)
4. Advanced: Check Reading Order
   • PowerPoint
   • PDF
Non-Apparent Disability

Profile

- Undeclared major – Sophomore
- Student with a diagnosis of Dyslexia and ADD

Challenges he experiences in accessing coursework

- Note taking – slow and laborious
- Written work – slow with handwriting and typing; loses train of thought
- Print books and handouts – unable to read efficiently due to dyslexia
- Poor quality PDF – small, faint and crowded font is hard to read
- Difficulty proof-reading his own work; dependent on family members
AT Chris Used to Access Coursework

• Read and Write Gold – literacy software
  • See and hear content simultaneously – digital books and content (text to speech)
  • Manipulate the display (background and highlight color)
  • Electronic highlighting and annotations
  • OCR and read PDF

• Dragon Naturally Speaking – voice recognition software
  • Allows him to get ideas on paper using his voice

• Live Scribe Pen
  • Synchronous written and audio notes for capturing lectures
Course Solutions for Chris

• Giving notes ahead of time – lets him print out content on special Livescribe paper

• Handouts in digital formats – lets him use text to speech software

• Universally designed PDF – lets him read and create annotations with Read and Write Gold or other text to speech software
Image-Only vs. Searchable PDF

- Search
- Highlight, Copy, Paste
- Text-to-Speech
- Optical Character Recognition (OCR)
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
Scanning to 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 OCR’d 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.

• OCR with Adobe Acrobat Professional
  • After the PDF has been created
Hands-On: OCR with Adobe Acrobat Pro

1. Use the “Text Recognition” Tool

2. Add Tags Using the Accessibility Tool

3. Save Changes
Using Headings and Styles in Word

• Use Headings
  • Indicate Level of Importance
  • Don’t Skip Heading Levels
  • Check Your Table of Contents in the Navigation Pane

• Choose a Style
Using Slide Layouts in PowerPoint

• Use Slide Layouts (Styles)

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

• If you add Text Boxes, slide reading order needs to be checked.
Adding Descriptive Alt Text to Images

• Avoid redundant descriptions (e.g. “Image of”).
• Avoid repeating text surrounding the image.
• Be concise.
• Consider context.

Ask yourself…

• What is the purpose of this image?
• If the image were removed, how would I convey the information using text?
• Alternative text for images should describe the meaning of the image in its context

• Ice Cream Manufacturer
• Girl Scouts of America
• Diversity Website
Learning Styles

VARK is an identified variety of learning styles: Visual, Aural, Read/Write, and Kinesthetic.

Many learners identify strongly with one of these styles, and approximately 60% learn best with a combination of styles (Multimodal).

Source: VARK (http://www.vark-learn.com)
Adding Alt Text in Word and PowerPoint

• Provide Alternate Text for Images
  • Right-Click on Image to Format Picture
  • Add a description in the Alt Text Description field
Converting to PDF

• Start with an Accessible Source Document
• “Enable Accessibility and Reflow with Tagged Adobe PDF”
  • In Acrobat Plugin Preferences
  • In Microsoft Save as PDF Options
• Use “Save As PDF” or “Create PDF”
  • Avoid Printing to Adobe PDF in the Printers List!
Advanced: Checking Reading Order

- PPT: Check the Reading Order of Each Slide
  - Items are read from bottom-to-top

- PDF: Check “Tags” for Correct Reading Order
  - Images will be out of order on converted PDFs
Questions? Need Help?

Online Tutorials and Resources

ATRC’s Accessibility By Design Website
Accessibility By Design (http://accessibility.colostate.edu)

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

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

Information on ATRC Services

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

For Direct Help
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