

The Real World Meets Virtual World: Universal Inclusion

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Universal Defined

- □ Done or experienced by everyone; existing or available for everyone; existing or true at all times or in all places
 - From the Merriam-Webster Dictionary



In Other Words...

☐ Things that work for all (or at least most) of us, most of the time



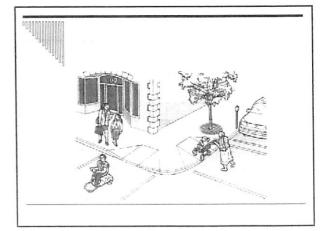
First Case for Universal Design

- ☐ 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
 - Center for Universal Design at North Carolina State University



Design Idea

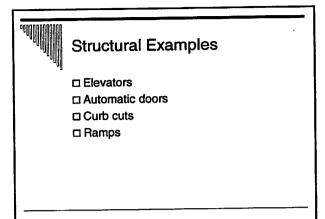
- ☐ Designing for people with special needs adds functionality for all of us!
- ☐ There are times when all of us are functionally blind or functionally deaf.
 - TV Raman



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3





UD Idea Expanded

- ☐ Idea of universal design applied to education
- ☐ How can the principles of physical access be applied to help people learn?
- ☐ Universal Design for Learning!



Principles of UDL

- ☐ Present content and information in different ways
- ☐ Provide multiple means for students to express what they know
- ☐ Provide multiple means to engage learners



The Magic

- ☐ Designing with others in mind expands your own reality
- ☐ Individuals who are differently abled
 - interact with the world differently
 - experience the world differently
 - = see the world differently

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Expanded Perspective

- ☐ The preschooler and the four walls
- ☐ The first grader's perception of same and different
- □ TV Raman and the middle



Learning Styles

- $\hfill\square$ We often teach the way we were taught
- ☐ OR we teach the way we best learn



How do you learn?

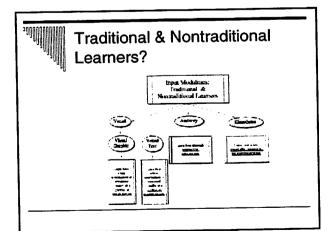
- ☐ Let's consider the learning profile
- ☐ Read each question and choose the best answer for you
- ☐ Add the columns and collate the results on the back

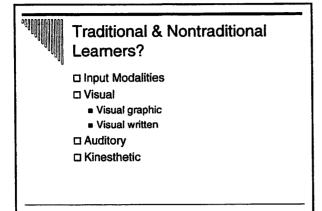


Learning Profile¹

- ☐ Identifies two strongest learning modalities
- ☐ Recognizes pivotal importance of
 - Combining learning modalities
 - Being actively engaged in the learning process
 - Working with the learner's strengths
- ☐ Traditional vs. nontraditional learners?

Myra Lerch, Butte College







Consider Some Results

- ☐ Low on Auditory
 - May be better face-to-face than over the phone
- □ Low on Visual Graphic
 - May struggle with charts and graphs
- ☐ High on Kinesthetic
 - Learn by doing



Implications for UDL

- ☐ The principles of UDL are designed to engage all learners
- ☐ Teach to all the modalities



UDL Principles

- ☐ Present content and information in different ways
- ☐ Provide multiple means for students to express what they know
- ☐ Provide multiple means to engage learners

Strategies?

- □ Lecture (auditory)
- ☐ Readings (visual written)
- ☐ Writing assignments (visual written)
- ☐ Graphic organizers (visual graphic)
- ☐ Activities (kinesthetic)



And it just so happens...

- □ When you communicate to/design for someone who is blind, it helps others not strong in visual learning
- □ When you communicate to/design for someone who is deaf, it helps others not strong in auditory learning





For Non-auditory Learners

- ☐ Speak looking directly at the person
- ☐ Do not stand with the light behind you
- ☐ Build in pauses
- ☐ Use gestures



For Non-visual Learners

- ☐ Use concrete terms
- □ Meaningless!
 - "Get that thing over there."
 - "You can see that...."
 - "Set both factors equal to zero and solve to get the result."
- ☐ Avoid
 - This, that, here, there, thing

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For Kinesthetic Learners

- ☐ "Walk" them through the steps
- ☐ Make sure they know where to go and what to do when they get there



And Equal Access Is the Law

Disability Law is Equal Rights Law



Concerns about Technology

☐ Office for Civil Rights...

- DCL June 29, 2010
- Issued jointly by DOJ and Dept of Ed
- ☐ "It is unacceptable for universities to use emerging technology without insisting that this technology be accessible to all students."



Not Equal

- ☐ Digital does not mean accessible!
- ☐ Just because something is digital does not mean that it is accessible to all!



What Does Accessible Mean?

- □ Non-technical definition
- □ Usable by someone who...
 - Cannot use a mouse
 - Cannot hear
 - Cannot see
 - Cannot easily distinguish color differences
 - Uses assistive technology (adaptive hardware and software) to access the system

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What Does Accessible Mean?

- ☐ Technical definitions
- ☐ WCAG 2.0 Level AA
 - Good checklists available
- □ W3C Checklist
 - http://www.w3.org/WAI/WCAG20/quickref/
- □ WebAlM
 - http://webaim.org/
- ☐ Section 508 checklists

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11



Course Access in a Nutshell

□ PDFs

- Text-based (searchable)
- Based on a well-structured Word document using styles
- Graphics include alt text
- Good color contrast
- Run accessibility wizard
- ☐ Post PDF and Word doc or RTF

31

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Slightly More Nutshell

□ Videos

- Captioned
- Good practice to also include transcript
- Strategy for audio description when required

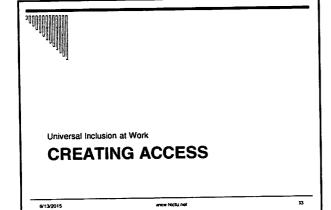
□ Voice-only recordings

■ Transcript

32

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- ☐ Office for Civil Rights...
 - DCL June 29, 2010
- "It is unacceptable for universities to use emerging technology without insisting that this technology be accessible to all students."

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The "Kindle Letter"

- ☐ June 29, 2010 Dear Colleague Letter (DCL)
- ☐ Issued by the Office for Civil Rights (OCR)
 - Cosponsored by DOJ and Dept of Ed
- ☐ Expresses concern over campuses adopting inaccessible technology

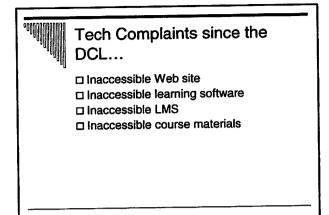
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UM Missoula

- ☐ Develop E&IT purchasing policy and procedures; train staff and faculty
- ☐ Find an E&IT Coordinator
- ☐ Make Web sites accessible (WCAG 2.0, level AA)
- ☐ Ensure accessibility of LMS
- □ Ensure accessible classroom E&IT (clickers, podiums, blogs, software, etc.)

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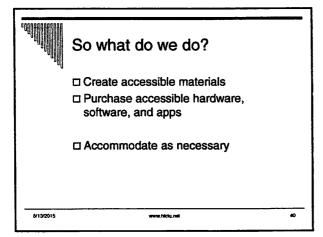
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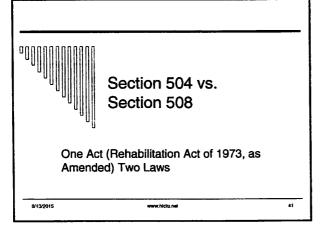


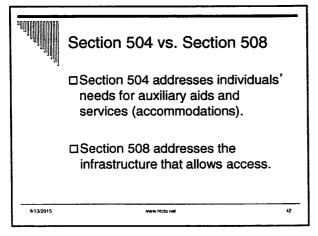
Potential Areas of Inequality

- ☐ Learning management systems
- ☐ Distance ed courses
- ☐ Software in campus labs
- □ Online books
- □ Online documents
- □ OER materials

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Rehabilitation Act of 1973

- ☐ Section 504 is about accommodation.
 - Making it work for individuals
 - Disability service offices created to serve students' needs
- ☐ Section 508 is about access.
 - Create accessible software, Web sites, videos, and documents
 - Purchase accessible products.
 - Campuswide responsibility

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Campus Comparison

- ☐ Section 504
 - Accommodation
 - Based on person's request and preference
 - Campus disability office handles student requests / HR handles employee requests
 - Begins where 508 ends

☐ Section 508

- Access
- No prior request needed—"open door"
- All E&IT purchases are affected for entire organization—students, staff, and faculty
- Ends where 504 begins

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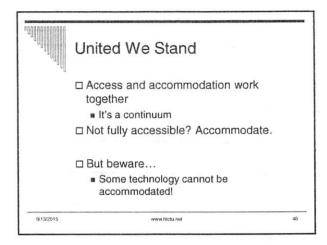
A Campus Analogy

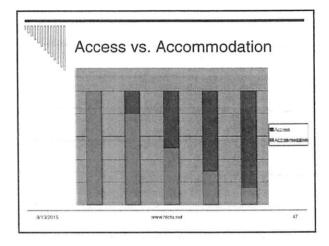
- ☐ Section 504
 - Deaf student requests that videos for her class be captioned
- ☐ Section 508
 - New videos must be captioned before being shown in the classroom for the first time

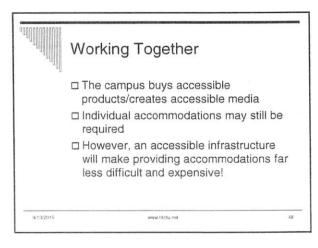
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One Example

- ☐ Provide free AT in all campus labs
 - Balabolka (document access, TTS)
 - NVDA (free screen reader)
- ☐ Provide more sophisticated solutions upon request
 - Instail JAWS as needed/when requested



Risk Management

- ☐ The more long-lasting and broadly available, the more things need to be accessible
- ☐ One-use materials or very limited availability, the more can rely on accommodation

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50



We've Got Your Back!

- ☐ Accommodation is always the back-up plan for access!
- ☐ Create and buy E&IT that is as accessible as possible
- ☐ When access falls short...accommodate!
- ☐ But remember: Accommodation is almost always more expensive and time consuming!

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How will you accommodate?

- ☐ Can still use materials that are not fully accessible, as long as you can accommodate individual needs in an equally effective manner
- Make accommodation planning part of the design strategy and buying decisions!

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Example

- □ PDFs for a DE class with access limited to class participants
 - Text-based
 - Recommend including alt text
 - Add tags and reading order upon request
- □ PDFs available to the general public
 - Greater level of access
 - Forms may require testing with assistive technology (AT)

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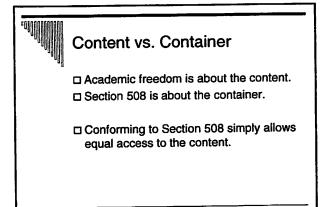
And Remember

- Do not require technology (software or hardware) that cannot be accommodated!
- In other words, if it is impossible to make the technology equally as effective for all users, do not require it of all users.

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Complying with the Standards

Section 508 of the Rehabilitation Act of 1973, as amended in 1998

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When Do Standards Apply?

- ☐ Section 508 standards apply to the governmental entity
 - As purchaser of E&IT
 - As creator of E&IT
- ☐ Standards are not enforceable on the vendors!
- ☐ Compliance is up to the organization
 - And is enforced by user complaint



Remember the Acronym

- □ Section 508 applies to Electronic & Information Technology (E&IT) that is "DUMPed"
 - D: Developed
 - U: Used
 - M: Maintained
 - P: Procured

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Section 508 in Action

- ☐ Make Web sites accessible
 - Follow the 508 or WCAG Standards
- ☐ Make software created by organization accessible
- ☐ Make videos & multi-media accessible
- □ Purchase accessible Electronic & Information Technology (E&IT)
 - ICT: Information & Communication Tech

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59

58



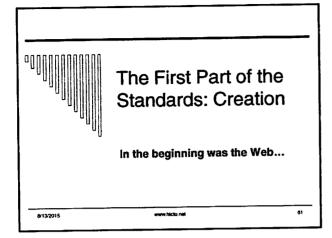
Complying with Section 508

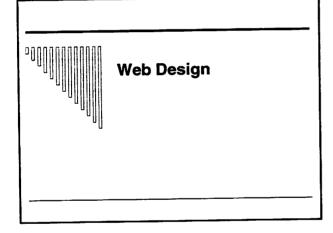
- □ Two types of E&IT standards
- 1. Standards for creating
 - Web pages
 - Web applications
 - Software
- 2. Standards for purchasing
 - Using checklist under Subpart B
 - OR using functional standards under Subpart C

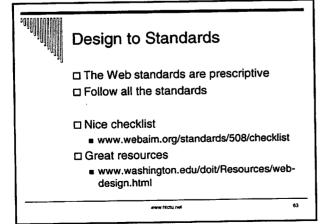
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Creating Accessible Web Pages

- ☐ Not difficult or even time-consuming
 - BUT accessibility does need to be included at the design phase!
- □ Follow the standards
- □ Design access in
 - Think accessible first!
- ☐ Use Web accessibility checkers

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64



Distance Education & LMS Platforms

- ☐ Learning Management Systems (LMS) provide a framework to post Web-based materials, media content, lecture notes, etc.
 - Systems vary in their level of accessibility
- ☐ Access has two parts
 - Is the platform accessible?
 - Is the material loaded into the platform accessible?

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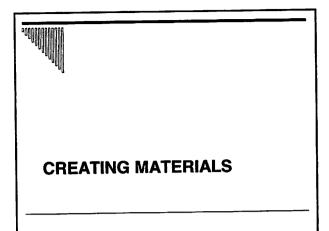


Instructional Materials Online

- ☐ All online instructional materials need to be accessible
 - PDFs
 - PowerPoint presentations
 - Podcasts
 - Videos
- ☐ Build accessibility before putting the material online!

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Content vs. Container

- ☐ Academic freedom is about the content.
- ☐ Section 508 is about the container.
- ☐ Conforming to Section 508 simply allows equal access to the content.

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68



Instructor-created AV Materials

□ Videos / podcasts

- Work from a script so that captioning is easy
 - □ Not a "script person"? Learn to use speechto-text software (like Dragon NaturallySpeaking)
- Verbalize your process so that you do not need to audio describe

69

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AV Workflow

- □ Develop outline / storyboard
- ☐ Write out script
 - Or use Dragon NaturallySpeaking
- ☐ As you develop graphics describe them
 - Alt text "description"



A Note on Dragon

- ☐ Dragon works really well with one person sitting at a desk
- □ Learn to use the program
 - http://www.htctu.net/trainings/manuals/ contributions/maincontribute.htm#dragon
- ☐ Train special vocabulary in advance for best recognition



Once Dragon Is Trained

- With a good "profile" can run your recordings through Dragon to generate a transcript
- □ Light editing may be required



Synching

- Once you have a transcript, synchronizing with the speech is often quick and easy
- ☐ Amara / Subtitle Horse
 - Do-it-yourself
- ☐ Automatic Sync Technologies (AST)
 - Inexpensive to just synch



Instructor-created Documents

- ☐ Learn to use the tools in Word to create accessible documents
 - Styles
 - Mark table header rows
 - Add brief alt tags
- ☐ Use Adobe Acrobat Pro and choose "make accessible" PDF
- ☐ Post PDF and Word doc or RTF

74

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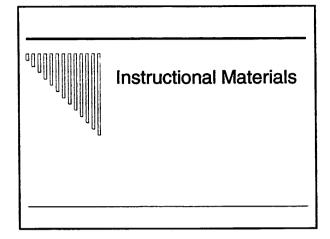
You Have the Power

- ☐ Be proactive with vendors
 - Ask if textbook publisher will provide e-text for students with print disabilities
 - Ask if videos are captioned
 - Ask if software is accessible for students with disabilities
- If faculty across the country put their collective foot down, vendors would respond

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Searchable PDFs

- ☐ Searchable PDFs are text-based
- Not scans or "pictures" of text
- A PDF based on a well-crafted Word document where styles are used probably does not need to be tagged
- □ Include verbiage on campus sites that directs anyone who needs greater accommodation to see your alternate media specialist

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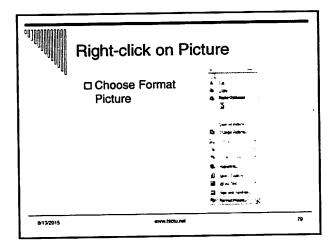
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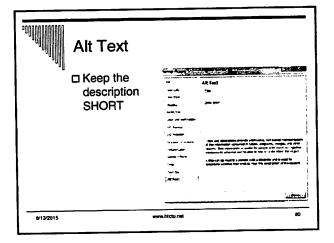


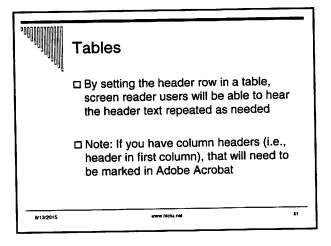
Four Simple Steps in Word

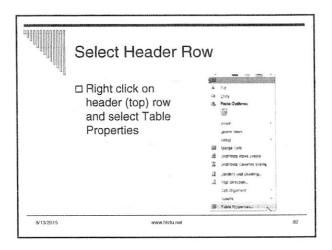
- ☐ Use templates and styles
- □ Add alt text
 - Picture descriptions
- ☐ Mark the header row in tables
- □ Name links logically
- ☐ THEN make it into a PDF

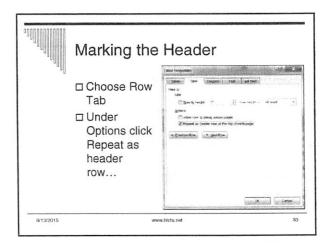
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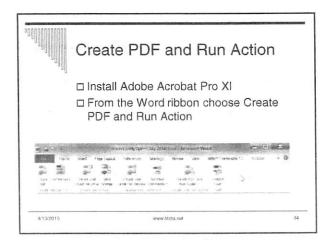


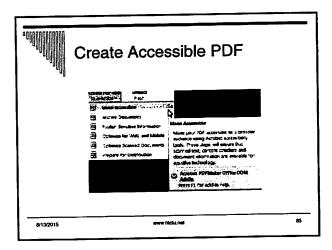


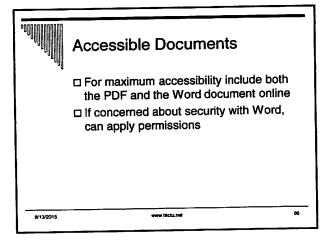


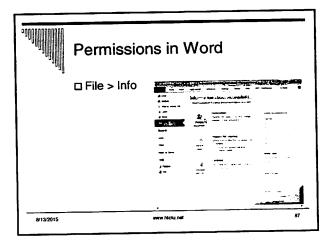


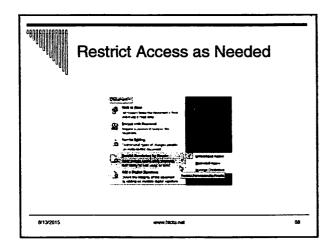


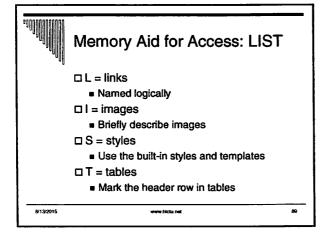


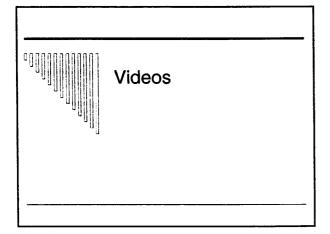














Section 508 on Videos

□ (c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.

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Interpretation

- ☐ Videos must be captioned before they are shown in the classroom for the first
- ☐ Uncaptioned videos may be purchased and someone (ordering department?) pays to have them captioned
- ☐ Under 508, captioning required whether or not deaf students will be in the class

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How do we do this?

- ☐ Purchase captioned videos when possible
- ☐ Include cost of captioning in budget when purchasing uncaptioned videos
 - Purchasing department usually pays
 - Check with DSPS for vendors

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93



A Word about Captions

- ☐ Always done in the language spoken in the video
 - Spanish language videos would be captioned in Spanish, not English
 - Subtitles not the same, but often will do
- ☐ Include all auditory content, not just speech
 - Slamming doors, barking dogs, laughter, etc. are all included in text descriptions

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94



Be Aware

- □ Closed captions are turned on and off with a "decoder"
- □ Televisions (since the '80s) have decoders built in; not all overhead projectors do
 - Epson, Panasonic, Smart make projectors with decoders
- ☐ External decoders can be purchased

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Captioning In-depth

- □ "Raw footage" exempt
 - Single use, restricted use, not archived
- □ Restricted access materials
 - If no users require captions, do not need
- □ Transcripts
 - Not sufficient for video (must have synchronized text and video)
 - Fine for audio-only podcasts

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96



You Tube

- ☐ Yes, can be captioned
- ☐ May not need permission if you simply stream words at the same time as the video
 - Uncertain at this time
- ☐ If it is a single-use, accommodate as necessary, rather than providing access

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DECT Grant

- □ http://www.canyons.edu/Offices/Distance Learning/Captioning/Pages/default.aspx
- ☐ Live and asynchronous captioning and transcription
- ☐ Captioning is FREE
- ☐ Get preapproval for number of minutes

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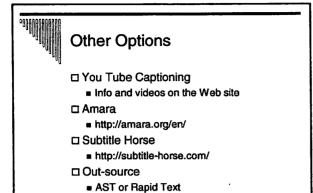
Eligible Materials

- ☐ Hybrid classes
- On-campus classes utilizing distance methods of content delivery (e.g., class capture, web conferencing, vodcasting, podcasting, content posted within a Learning Management System)
- ☐ Digital learning object repositories used to collect and make available digitized content
- DVDs and VHS tapes if that content is used in one of the delivery formats described above

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Podcasts

- □ Audio only
 - A transcript is all that is needed
- □ Audio and video
 - Synchronized captions required if it is public access
 - Accommodation can be provided on request if it is a restricted audience (i.e., locked inside LMS)

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101

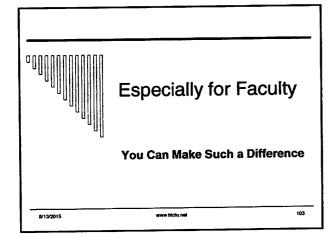


Audio Description

- □ 508 does require it
 - Can be technically very challenging
- ☐ However, only needed in order to make content clear
 - Can potentially be handled by other means

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102





The Search for Meaning...

■ Why do you teach?

☐ If you love to touch lives and make a difference, then there are some simple ways you can help.

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How Can You Help?

☐ Get book orders in promptly

- If we know what books the student needs, we can begin the conversion
- UC Berkeley faculty agreed to order books at least 7 weeks before the term begins
- ☐ Learn to create accessible instructional materials

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105



Instructor-created AV Materials

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 - n Not a "script person"? Learn to use speechto-text software (like Dragon NaturallySpeaking)
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107



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Better Pedagogy

☐ Learning to consider the perceptual needs of individuals with disabilities segues into learning to teach to all learning styles

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Lessons from Architecture

- ☐ Designing for people with special needs adds functionality for all of us!
 - Ramps
 - Elevators
 - Automatic doors



UDL Three Principles

- ☐ Multiple means of representation
- ☐ Provide multiple means of action and expression
- ☐ Provide multiple means of engagement



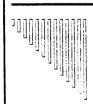
Sonoma State UDL

- ☐ Minimizes barriers and maximizes learning for all students
- ☐ Materials used and understood by everyone
 - Create genuine learning opportunities
 - Focus on recognition, skills and strategies, prioritizing
- □ http://enact.sonoma.edu/



UDL Movement

- □ CAST
 - www.cast.org
- □ Natl Ctr of Universal Design for Learning
 - http://www.udicenter.org/
- ☐ Sonoma State University
 - http://enact.sonoma.edu
- □ Colorado University Boulder
 - https://assett.colorado.edu/



So Whose Job Is Compliance?



Who Complies?

- □ Campus responsibility
 - Web pages
 - Distance Ed
 - Online materials
 - Campus-produced software
 - E&IT purchases



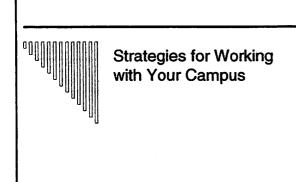
Ideal World

- ☐ Accessibility needs to be considered right from the beginning
- ☐ Ask at the start, Is the purchase E&IT?
- ☐ If it is, then use the procurement process for buying accessible under Section 508.



OCR + 508 + 504

- □ Want to buy it?
 - Make sure it's accessible
- □ Not accessible?
 - Plan how to accommodate it
- ☐ Can't accommodate it?
 - Don't require it for student success!





Decide Where to Start

- □ Remember risk analysis
 - Start with areas of greatest exposure
- □ Look for low-hanging fruit
- ☐ The Web site is a great starting point!
 - It's constantly under revision anyway!

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119



Find Places to Draw Lines

- ☐ Find areas to say "from now on..." and then rely on accommodation to fill in behind you
- ☐ With purchasing start over a certain amount
 - Contracts over \$50,000

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120



Drawing a Line with Videos

□ Videos

- At this date, all videos either purchased captioned or captioned before use
- Caption legacy materials as an accommodation

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Determine Timelines

- ☐ Having a plan with a schedule will go a long way to limiting liability
- ☐ And remember...you still have to accommodate!

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122

121



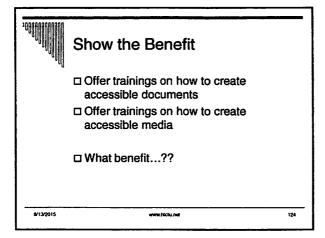
Getting Buy-in

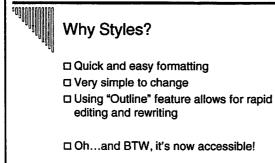
- □ Make sure that faculty understand that accessibility is not the enemy of academic freedom
- ☐ Encourage universal design
 - Connect designing for all with designing for all learners
 - http://www.cast.org/udl/

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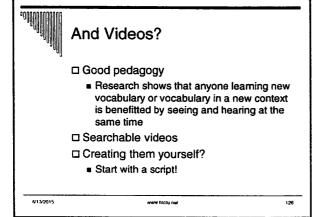
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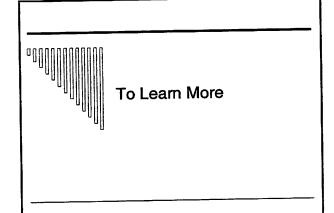
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8/13/2015 WWW McDL net 125







Learning from Others

- ☐ W3C Guidelines
 - WCAG (Web Content Accessibility Guidelines) 2.0
 - http://www.w3.org/TR/WCAG20/
- □ DO-IT (University of Washington)
 - http://www.washington.edu/doit/
- □ WebAIM
 - http://webaim.org/



Digital Media

- □ DCMP Captioning Key
 - http://www.dcmp.org/captioningkey/
- □ NCAM STEM
 - http://ncam.wgbh.org/experience_leam/ed ucational_media/stemdx/guidelines
- □ WGBH Web Media
 - http://ncam.wgbh.org/invent_build/web_mu ltimedia/accessible-digital-mediaguide/guideline-h-multimedia

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What the CSUs Are Doing

□ CSU Accessible Technology Initiative
■ www.calstate.edu/Accessibility/

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130



Reference

- □ http://www.accessboard.gov/sec508/guide/index.htm
- □ http://www.accessboard.gov/sec508/refresh/report/
- □ http://www.calstate.edu/Accessibility/web accessibility/evaluation/index.shtml



Questions?

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 - E-mail is the best way to get me.
 - When really need me, e-mail and call! ;-)

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