

Innovative Distance Education: Accessibility and Usability Training

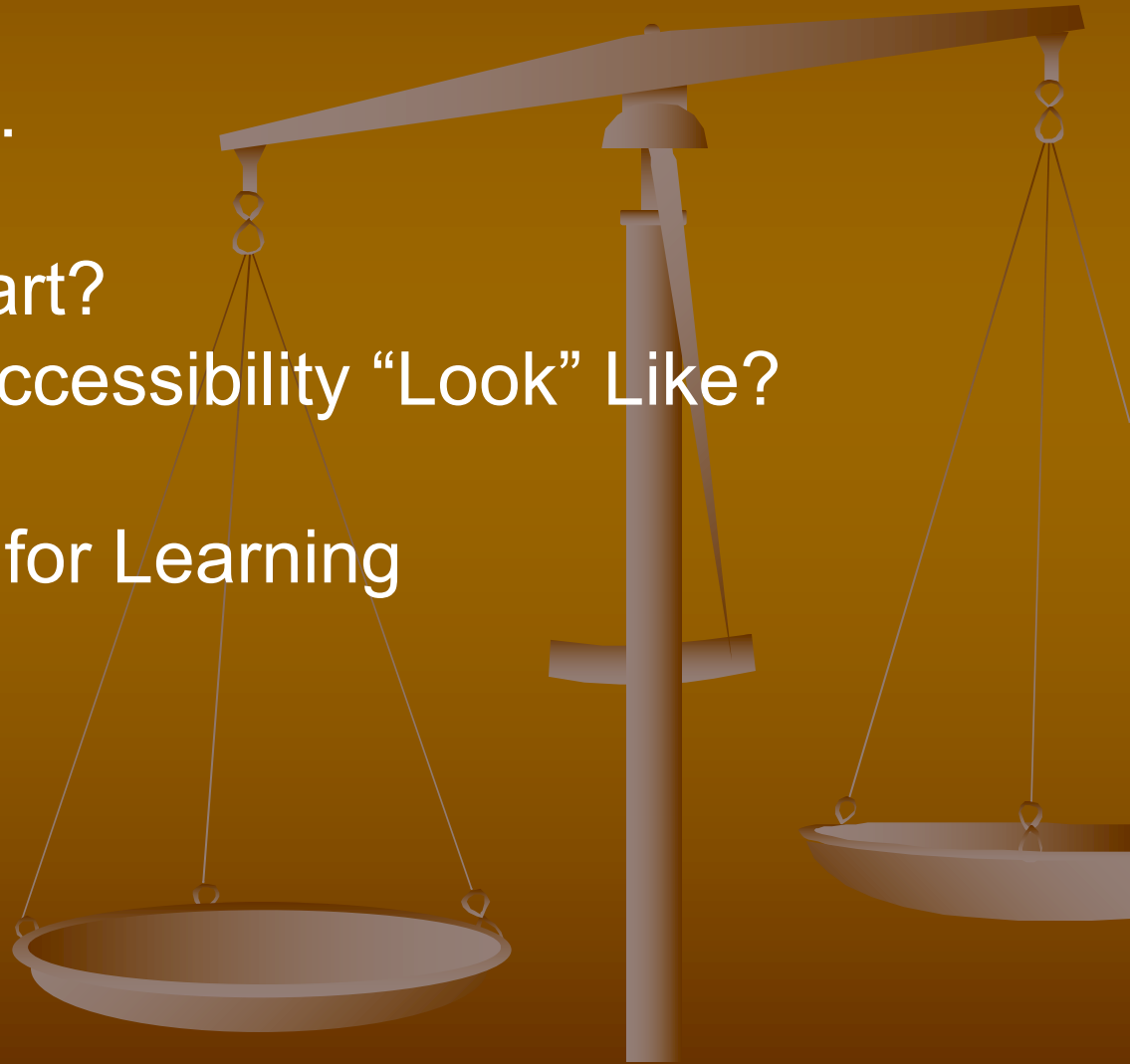


Korey Singleton, ATI Manager, George Mason University
Kara Zirkle, Accessible Technology Specialist, Miami
University

Feb. 16, 2017
PSSHE Virtual Conference

Today's Agenda

- Introductions
- So Many Terms...
- What We Know...
- Where Do We Start?
- What Does EIT Accessibility “Look” Like?
- Universal Design
- Universal Design for Learning
- Testing
- Q&A



Accommodations, Accessibility, and Assistive Technology

SO MANY TERMS...



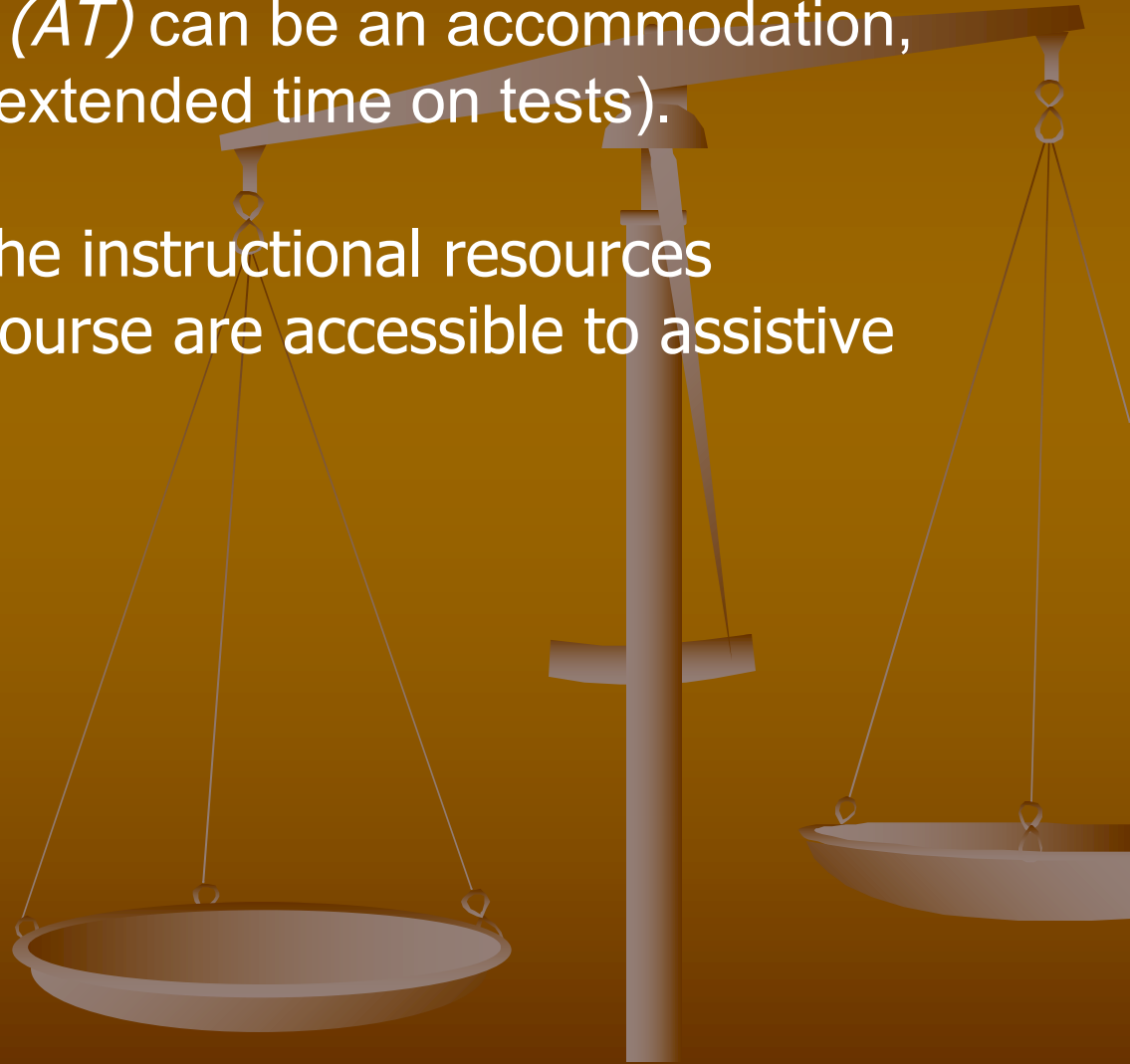
Accommodation vs. Accessibility

Accommodation	Accessibility
<p>Students self disclose to receive academic accommodations in the classroom (e.g., notetaking support, extended time, real-time captioning, etc.)</p>	<p>Course should be accessible out the box. Inclusive practices like universal design encourage flexibility and designing for all students, not the <i>average</i> student.</p>
<p>Accommodations are provided on individual basis. In essence, the existing course is retrofitted to accommodate student with a disability.</p>	<p>Courses using online components (e.g., LMS), should meet web accessibility standards and guidelines (i.e., Sect. 508, WCAG 2.0 AA).</p>

Understanding *Accommodations* and *AT*

Assistive Technology (AT) can be an accommodation, but not always (e.g., extended time on tests).

Still imperative that the instructional resources implemented in the course are accessible to assistive technology users.



Types of Impairment and Assistive Technology

- **Sensory (Loss of vision and/or hearing)**

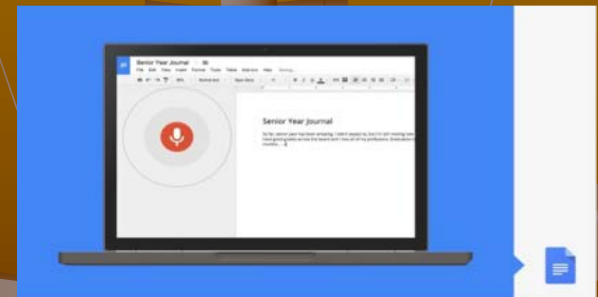
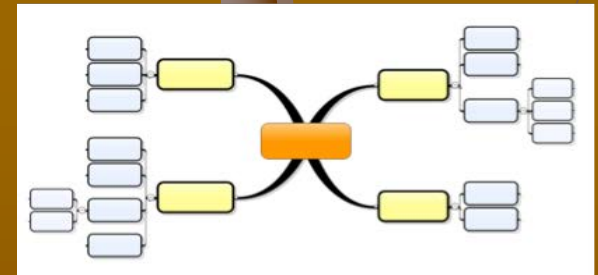
- Screen readers and refreshable braille devices for people who are blind or have other print disabilities
- Open or closed captioning for people who are deaf

- **Learning/Cognitive**

- Organizations, readability

- **Physical**

- Alternatives input tools, such as speech-to-text software, for people who cannot use a computer mouse



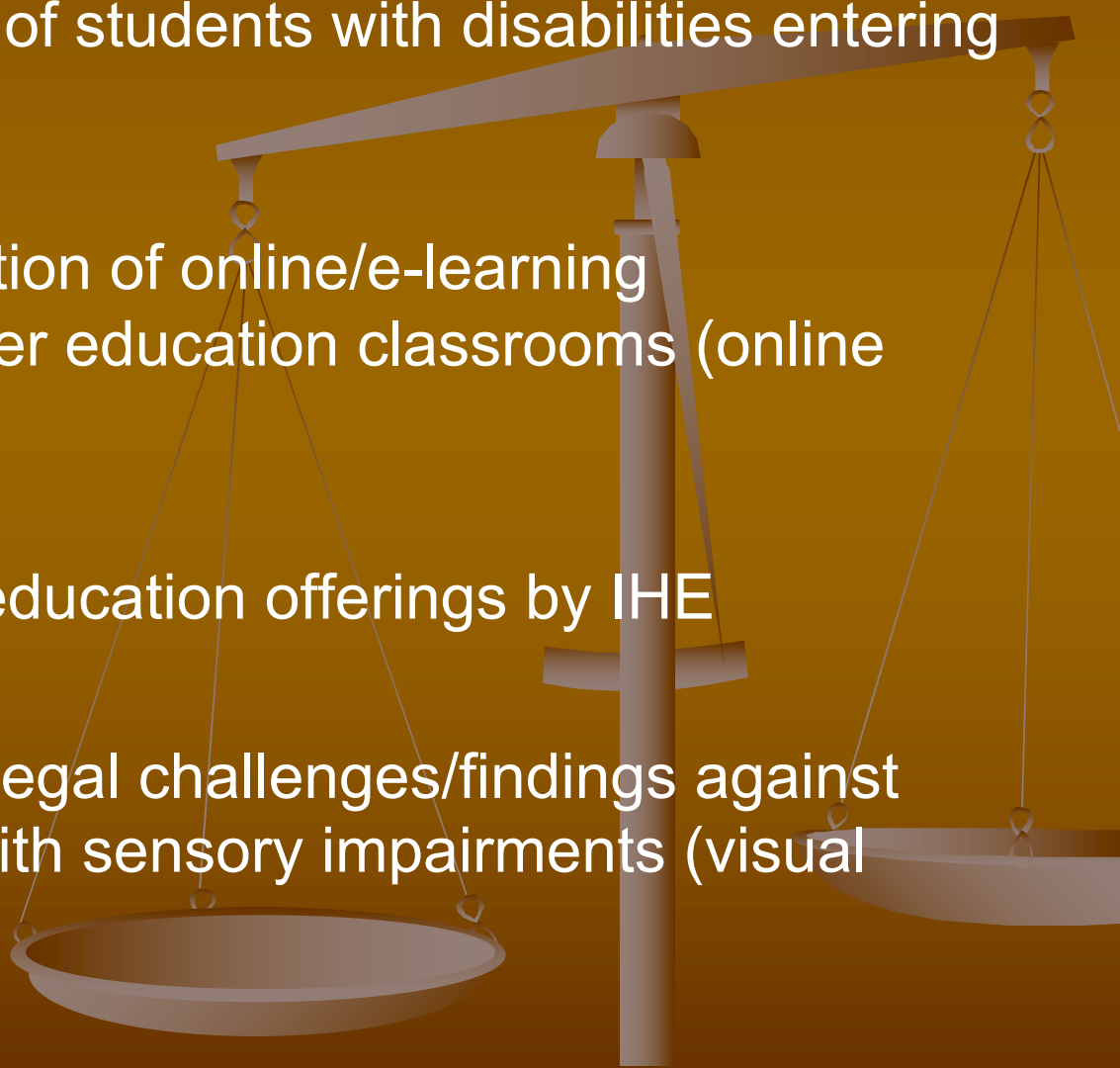


Trends in HE, Recent litigation, EIT "In"-Accessibility

WHAT WE KNOW...

Trends in Higher Ed...

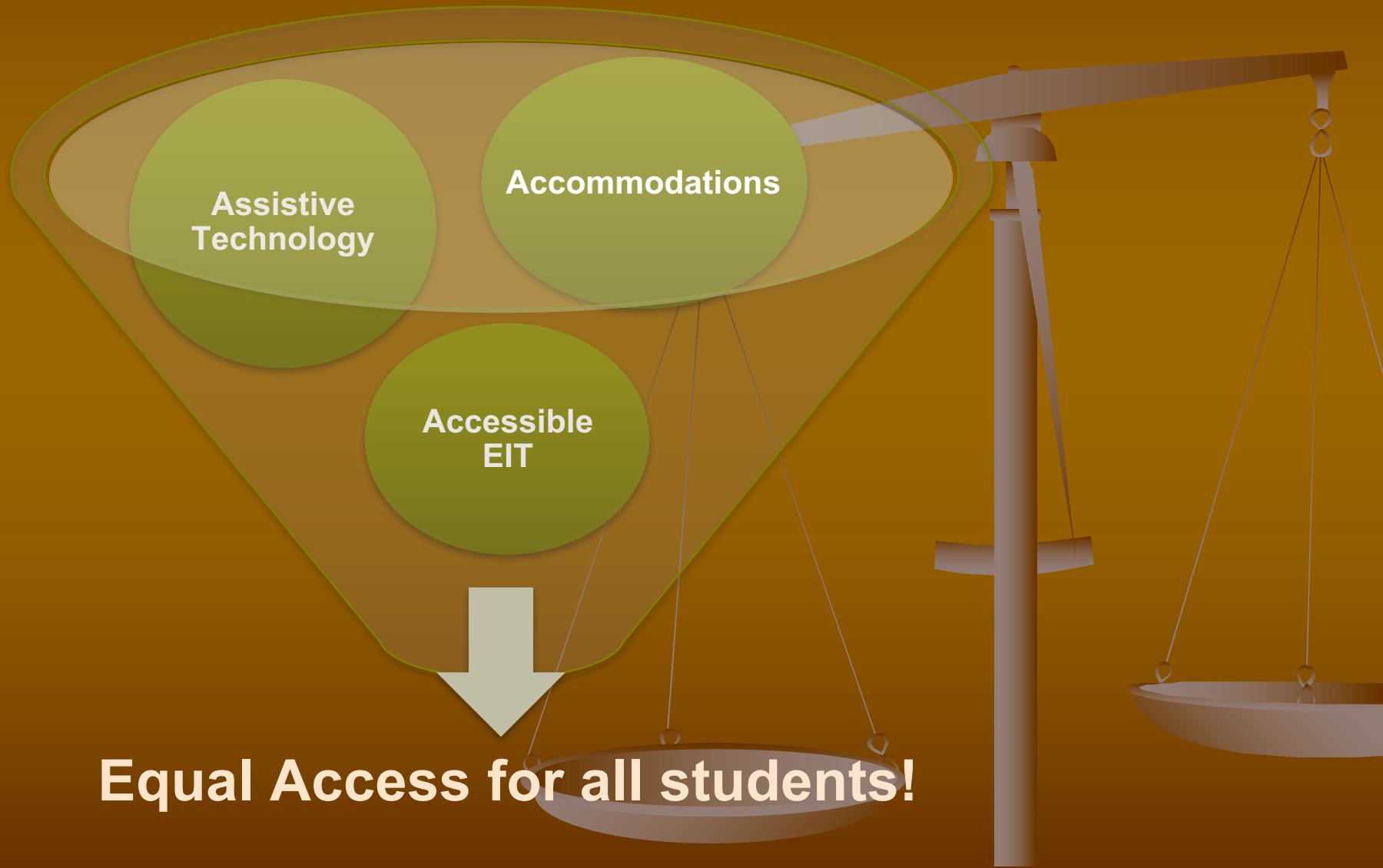
- Increasing numbers of students with disabilities entering IHE
- Greater implementation of online/e-learning technologies in higher education classrooms (online and F2F)
- Growth in distance education offerings by IHE
- Growing number of legal challenges/findings against IHE by individuals with sensory impairments (visual and/or hearing loss)



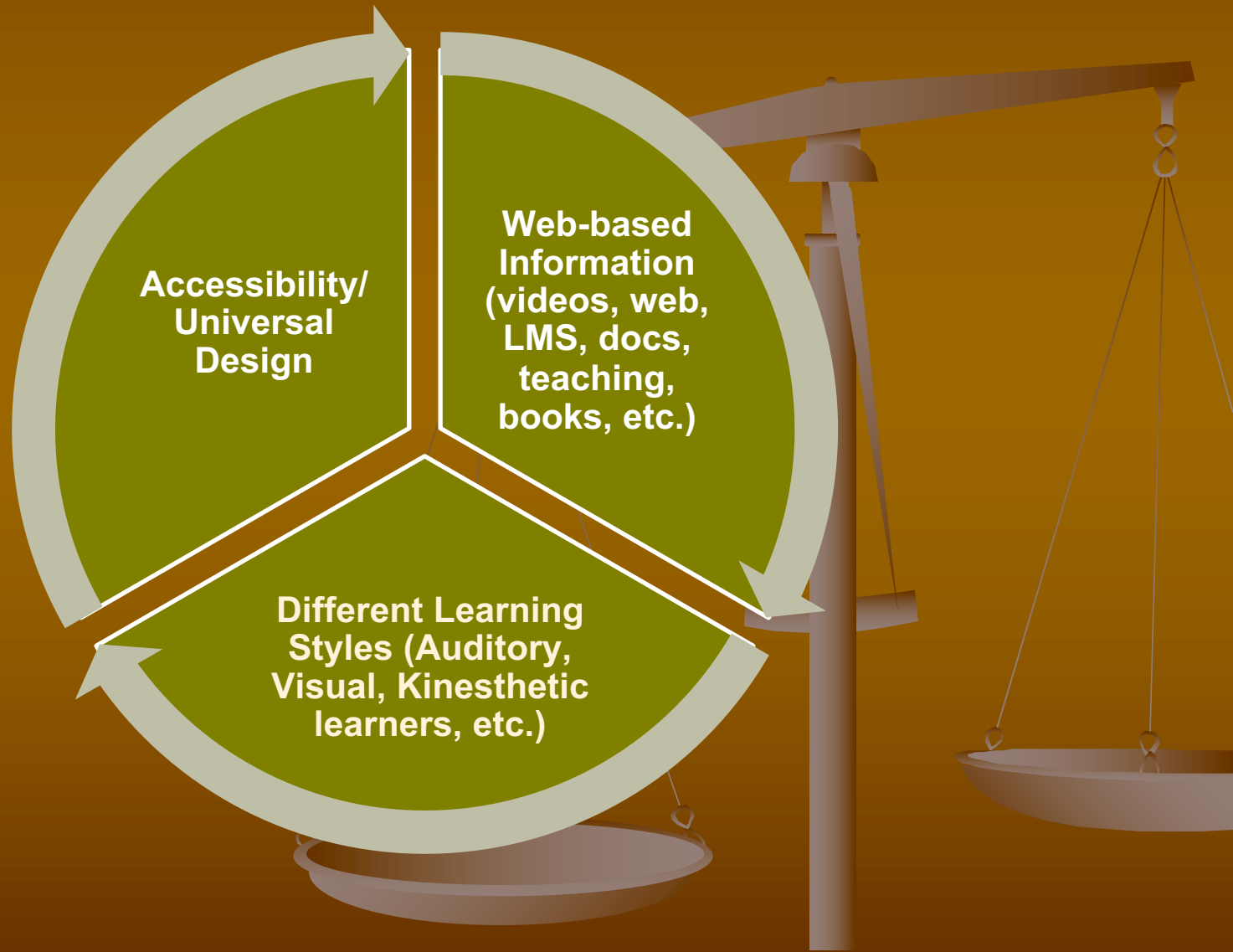
Recent Litigation...


- 
- **UC-Berkeley (again) 2016**
 - ✓ Miami (OH) (2016)
 - ✓ CU-Boulder (2015)
 - **Harvard/MIT (2015)**
 - ✓ EdX (2015)
 - ✓ Atlantic Cape CC (2015)
 - ✓ Univ. of Phoenix (2015)
 - ✓ Univ. of Cincinnati (2014)
 - ✓ Univ. of Montana (2014)
 - ✓ Youngstown State (2014)
 - ✓ Maricopa CC (2014)
 - ✓ Florida St. Univ. (2014)
 - ✓ Louisiana Tech (2013)
 - ✓ SCTCS (2013)
 - ✓ UC-Berkeley (2013)
 - ✓ Penn St (2011)
 - ✓ Ohio St. Univ. (2010)

How Does Everything Tie Together?



It doesn't matter where you start your focus, it is a continuous cycle that constantly helps meet the needs of all students.





Roles and Responsibilities, Challenges, Textbook Selection and Procurement

WHERE DO WE START?

Roles and Responsibilities

Accessibility is a team effort!



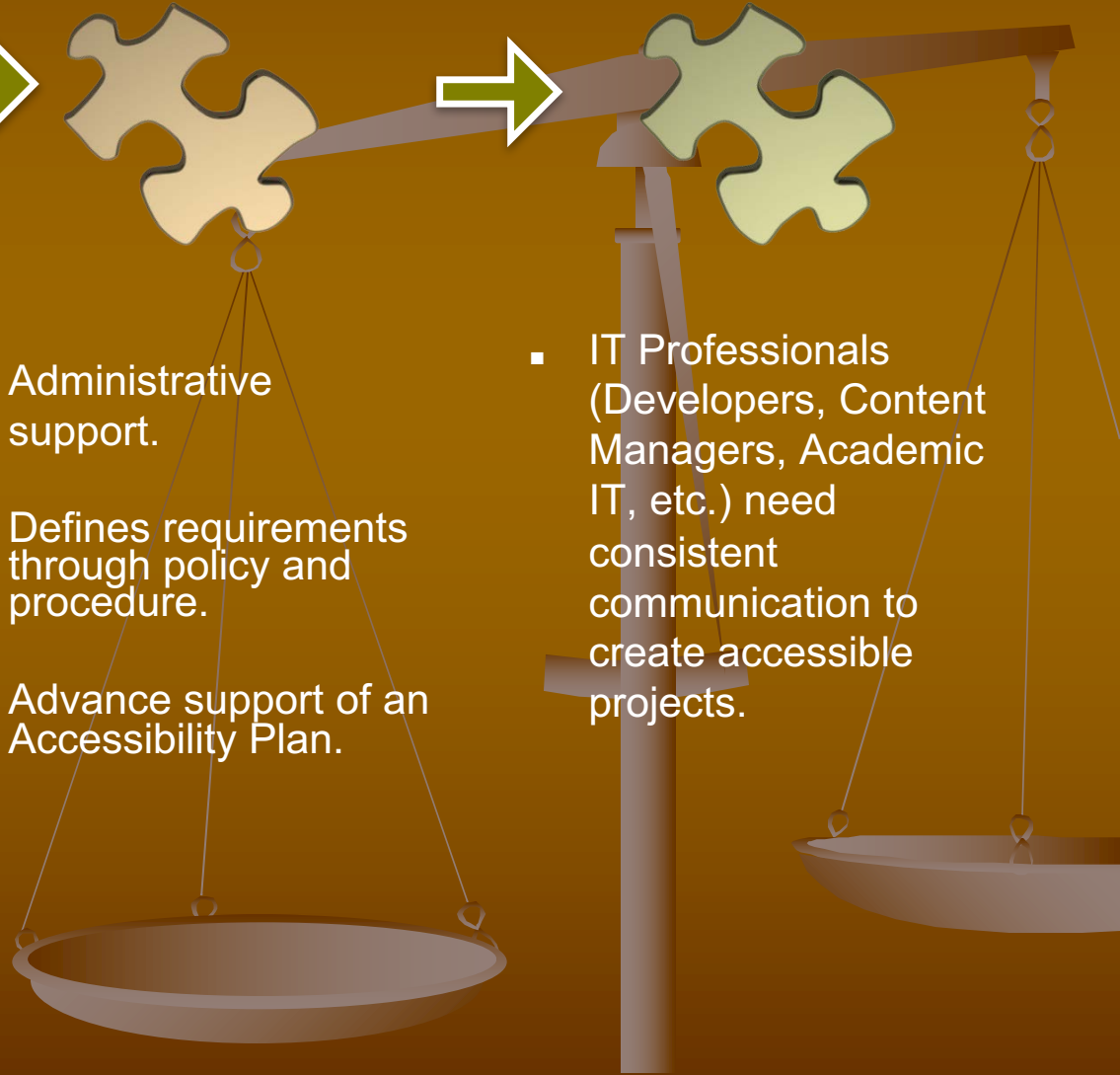
- EIT accessibility staff assist with defining roles and responsibilities as it relates to accessibility
- E.g., EIT Accessibility Group, EITA Guidelines, Consistent Communication with Key Stakeholders, etc.



- Administrative support.
- Defines requirements through policy and procedure.
- Advance support of an Accessibility Plan.



- IT Professionals (Developers, Content Managers, Academic IT, etc.) need consistent communication to create accessible projects.



Roles and Responsibilities: How are you involved with accessibility?

Teaching Faculty and Staff

Do you use a Learning Management System (LMS)?

Do you use websites in class or for posting information?

Do you create or post documents or videos online for class?

Do you use technology (i.e., wikis, etc.) for your class assignments?

Do you use visuals or play audio/video in the classroom that give important info pertaining to the class?

Do you use webinars, or other classroom capture or conference technology or record your class for review?

Roles and Responsibilities: How are you involved with accessibility?

Administrative Staff

When overseeing or working on projects do you integrate accessibility into the planning process?

Do you train your staff on accessibility so it comes from a top-down approach?

Do you influence or decide on technology purchases, if so have you considered accessibility?

Do you oversee computer classroom settings, is it accessible?

Do you develop Policies, procedures or guidelines for you offices or employees? If so, have you included accessibility?

When creating committees, have you included someone from the ATI office to help with accessibility?

Roles and Responsibilities: How are you involved with accessibility?

IT Professionals

Do you influence or decide on technology purchases?

Do you develop websites, applications or documents?

Do you oversee computer classroom settings?

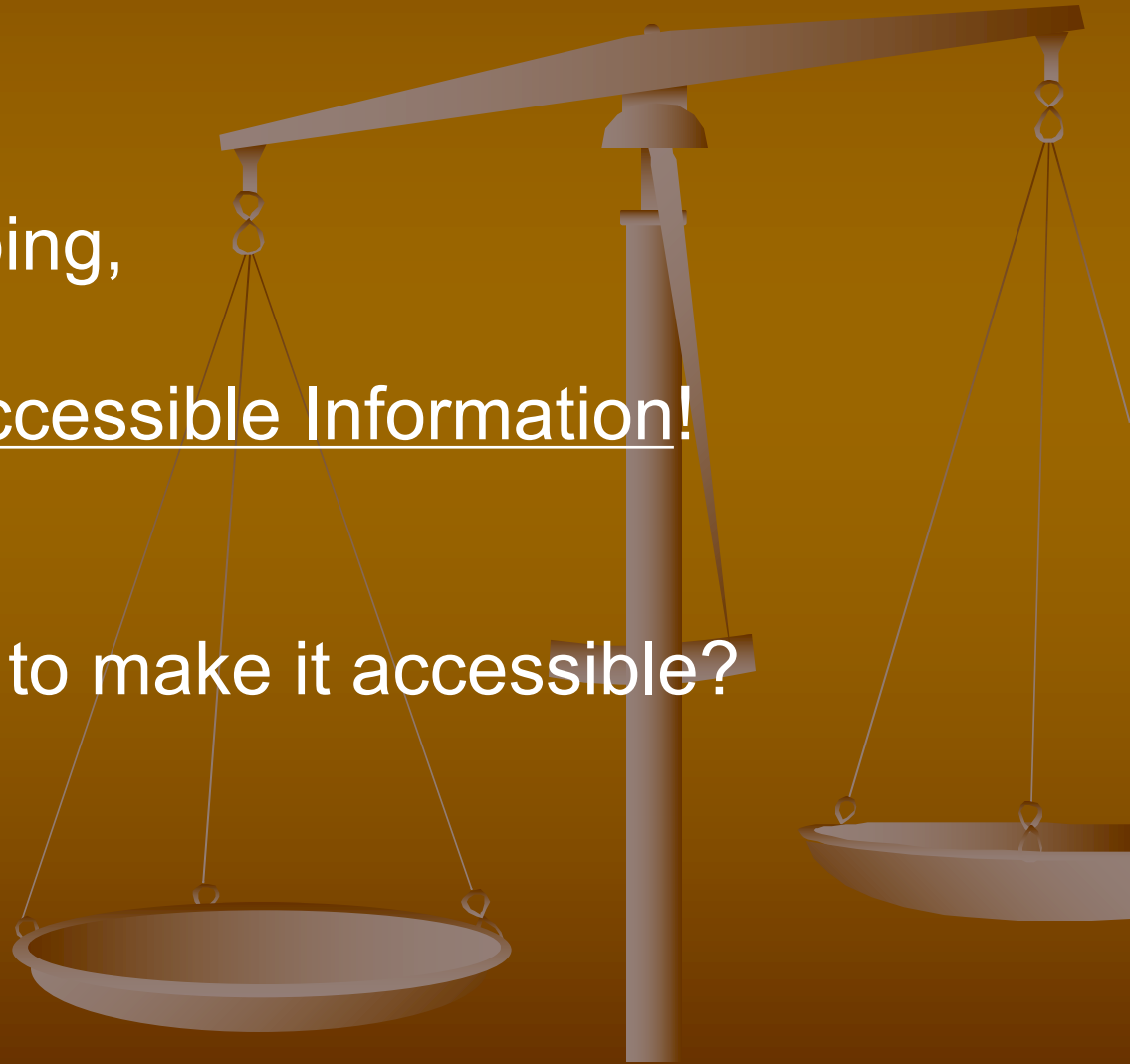
Do you manage others who may work on the above mentioned?

Do you work in multimedia or telecommunications?

Do you use or help faculty use webinars, other classroom capture or conference technology?

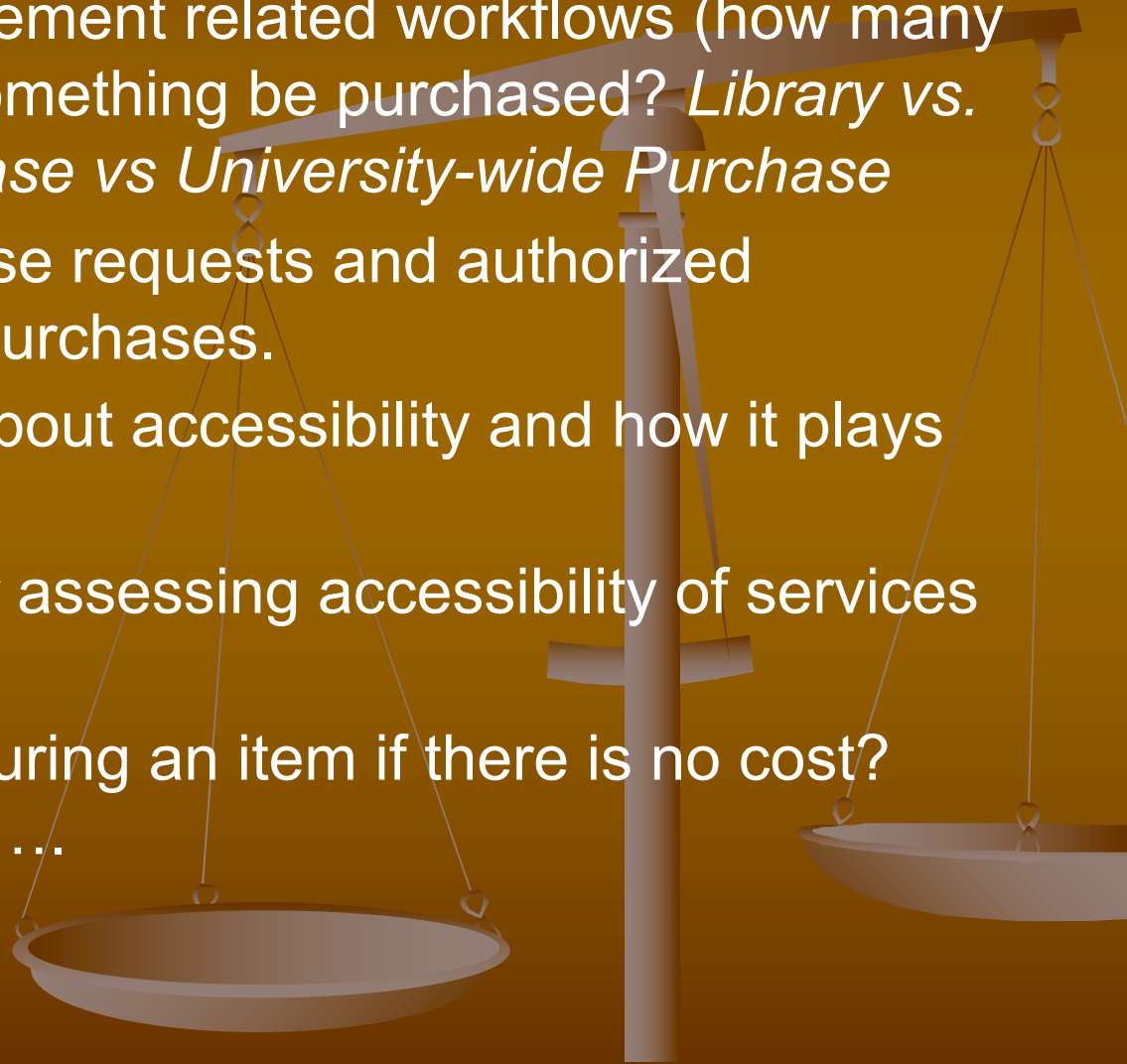
If you answered “Yes” to any of these questions, you may be

- Posting,
 - Distributing,
 - Creating/Developing,
 - Using,
 - Maintaining...Inaccessible Information!
-
- What can you do to make it accessible?



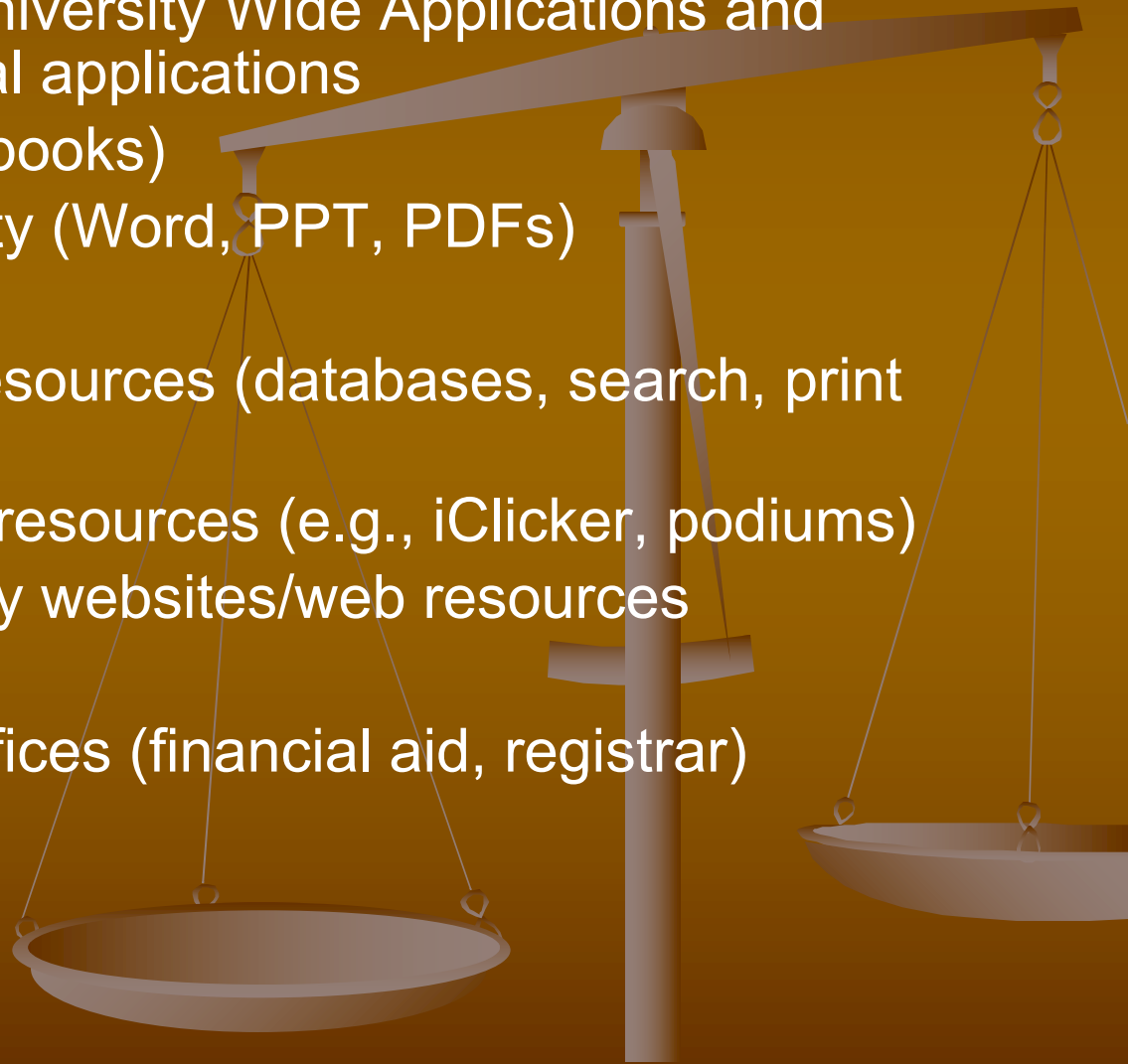
Challenges around Procurement

- Complexity of procurement related workflows (how many different ways can something be purchased? *Library vs. Departmental Purchase vs University-wide Purchase*)
- Magnitude of purchase requests and authorized individuals to make purchases.
- Lack of awareness about accessibility and how it plays into procurement.
- Lack of resources for assessing accessibility of services and goods.
- Is it considering procuring an item if there is no cost?
Textbook selections



Common Issues of Accessibility

- Inaccessible LMS', University Wide Applications and teaching supplemental applications
- Alternative texts (textbooks)
- Document accessibility (Word, PPT, PDFs)
- Captioning for videos
- Inaccessible library resources (databases, search, print resources)
- Additional classroom resources (e.g., iClicker, podiums)
- Inaccessible university websites/web resources
- ATMs
- Access to auxiliary offices (financial aid, registrar)



Looks like everyday technology...

But how do you know if your everyday technology meets accessibility standards or is working towards compliance?

You don't unless you ask!

- Is there University Policy about accessibility? *Know your guidelines!*
- Do vendors have a VPAT?
- Did you search for accessibility on their website?
- Do vendors have a roadmap showing accessibility updates?
- Do vendors have testing documentation?
- How are other institutions checking for accessibility?



Similarities of Face-to-Face and Online Learning

Teaching to enhance the students
perspective and serve them by
providing the best education possible

Software, Websites and
Applications

**LMS and content
(videos, documents,
library databases)**

Textbooks and
Supplemental Content (3rd
Party)

**Students
are the
Focus**



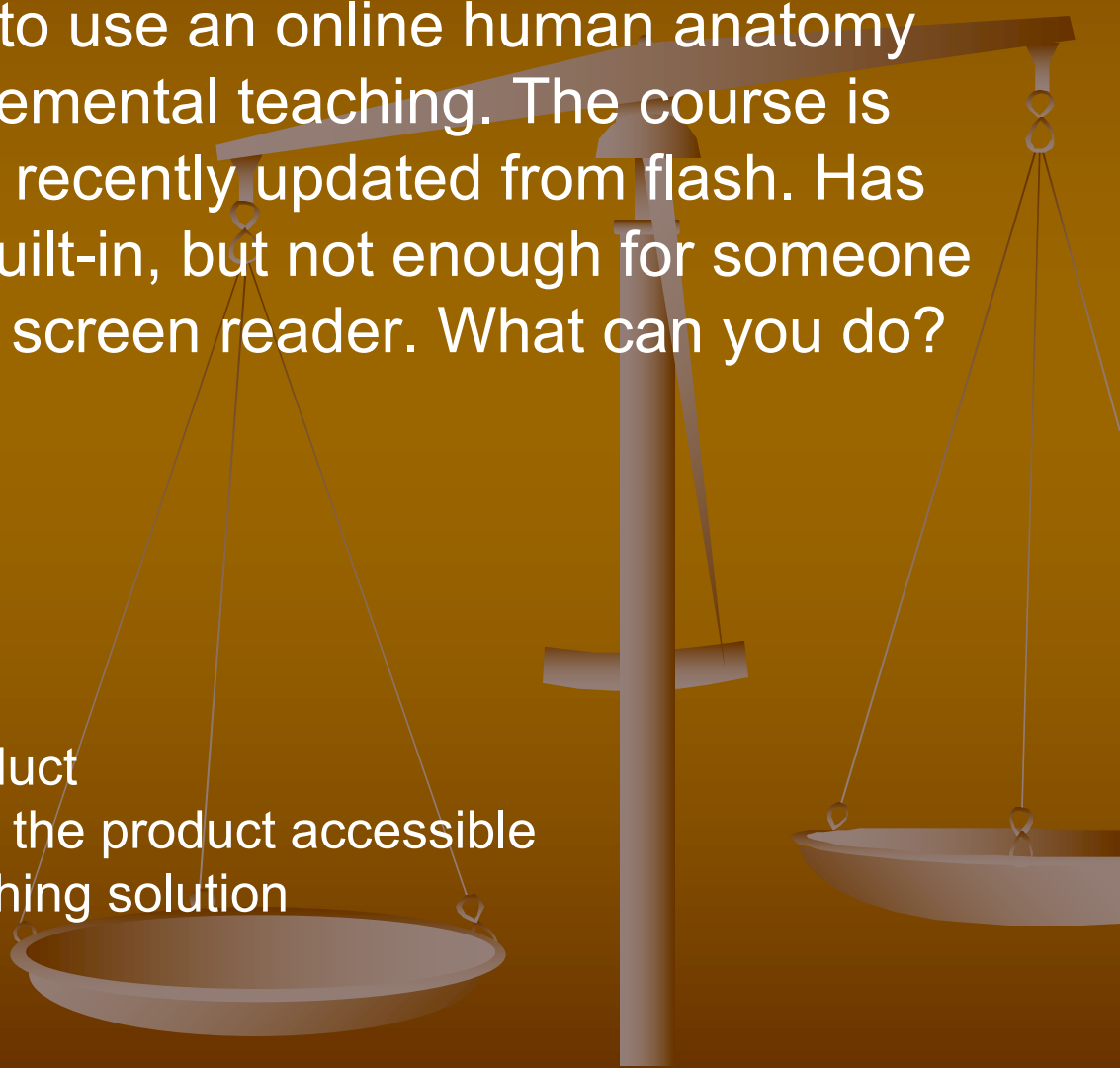
Case Study Example

- A course is wanting to use an online human anatomy application for supplemental teaching. The course is designed in HTML5, recently updated from flash. Has some accessibility built-in, but not enough for someone who may be using a screen reader. What can you do?

POLL QUESTION:

What do you do?

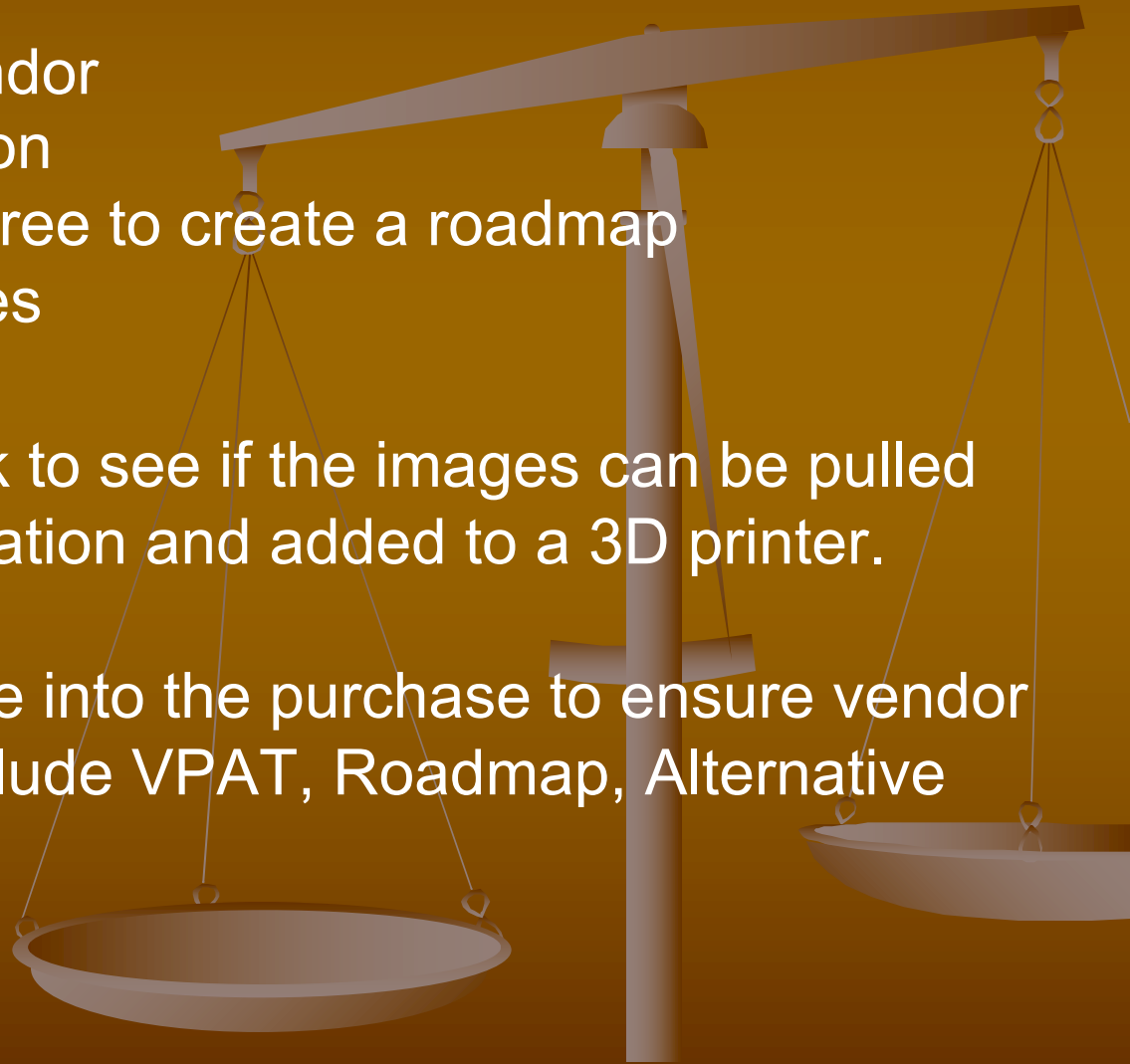
1. Don't purchase the product
2. Ask the vendor to make the product accessible
3. Find an alternative teaching solution
4. All of the above



Potential Next Steps

You could try...

- Working with the vendor
- Testing the application
- Ask the vendor to agree to create a roadmap incorporating changes
- In the meantime, check to see if the images can be pulled directly from the application and added to a 3D printer.
- Work contract language into the purchase to ensure vendor is held to standard (include VPAT, Roadmap, Alternative Action plan, etc.).





Examples, Design Considerations, Identifying Accessible Resources

WHAT DOES EIT ACCESSIBILITY “LOOK” LIKE?

E.g., Accessible Documents

The Anatomy of an Accessible Page

page 1/2

Heading 1 → Syllabus

Heading 2 → DL 101 - Introduction to Online Learning

Heading 3 → Course Information:


- Course Title: Introduction to Online Learning
- CRN: 12345
- Credits: 3
- Term: Winter 2014

Format lists as proper lists

Heading 3 → Instructor Information:

Hello! My name is John Doe, and I'll be your instructor for this course. I've taught this course online for the past two years. Each time I teach it, I learn something new.

Add Alternative (Alt) text to images



John Doe
Instructor

Heading 3 → Assignments/Assessments:

Heading 4 → Grading Scale

Grade	Grading Scale by Points	Grading Scale by Percentages
A	202 - 225 +	90 - 100%
B	180 - 201	80 - 89%
C (or P)	157 - 179	70 - 79%
D	135 - 156	60 - 69%
F (or NP)	< 134	< 59%

Table Column Header

Table Row Header

Heading 4 → Late Work & Make-up Policy

Assignments must be completed on time in order to earn full credit.
(Late assignments will earn 50% credit.)

Sufficient Color Contrast

Write meaningful link texts

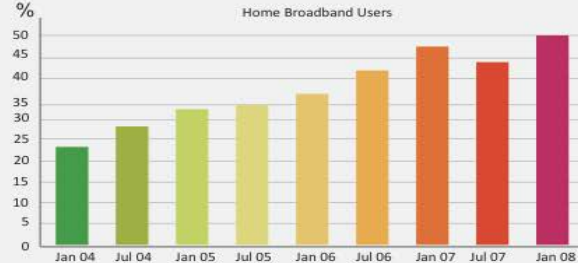
page 2/2

Heading 3 → Special Accommodations:

Students who experience disability-related barriers should contact **Disability Services** (www.pcc.edu/disability). If students elect to use approved academic adjustments, they must provide in advance formal notification from Disability Services to the instructor.

Heading 2 → DL 101 - Online Learning Best Practices

Heading 3 → Best Practices when using complex graphics:



This graph summarizes the growth of students using home broadband the period from January 2004 to 2008. The percentage increased from 22% in 2004 to 48% in 2008.

When using complex images, include Alt text as you would for any other image but also include additional description as a caption. If more description is needed, include it in the content of the page.

E.g., Labeling Images

- Graphics should have meaningful labels:
 - Ex: “Photo of Secretary of Education Arne Duncan reading to children at Central Elementary School.”
 - Not: “Photo.jpg”
- The labels can be visible to everyone, or they can be hidden in the programming of the web page. Designer’s choice!



E.g., Accessible Forms

- E.g., Color Contrast
 - Meaningful information should be conveyed through more than just color.
 - For example, individuals unable to identify color would not know which fields were required. A simple fix would be to add an asterisk(*) next to the required fields.



Tell us who you are. (required fields in red)

Company:

Salutation: (please select)

First name:

Last name:

Job title: (please select)

Phone: e.g., 415-555-1111

Web address: http://

E-mail:

E.g., Keyboard Navigation

- Users should be able to “tab” through an application and get to all information and functions.
- Pages should not require users to manipulate a mouse for navigation.



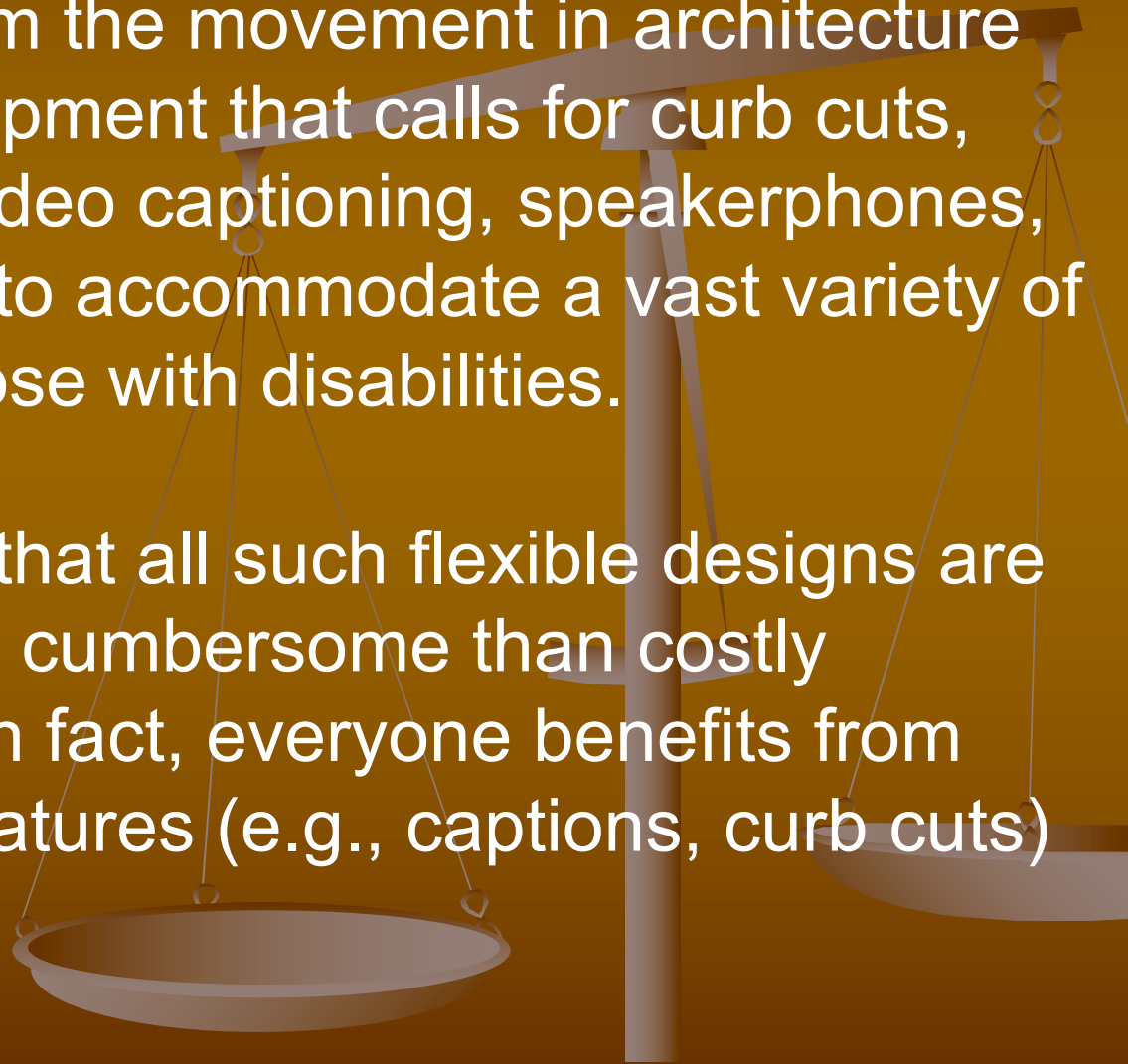
Designing for All in the Online Classroom

UNIVERSAL DESIGN....















Why Universal Design?

- Term borrowed from the movement in architecture and product development that calls for curb cuts, automatic doors, video captioning, speakerphones, and other features to accommodate a vast variety of users, including those with disabilities.
- Experience shows that all such flexible designs are less expensive and cumbersome than costly retrofits, and that, in fact, everyone benefits from universal design features (e.g., captions, curb cuts)



Think about your users...

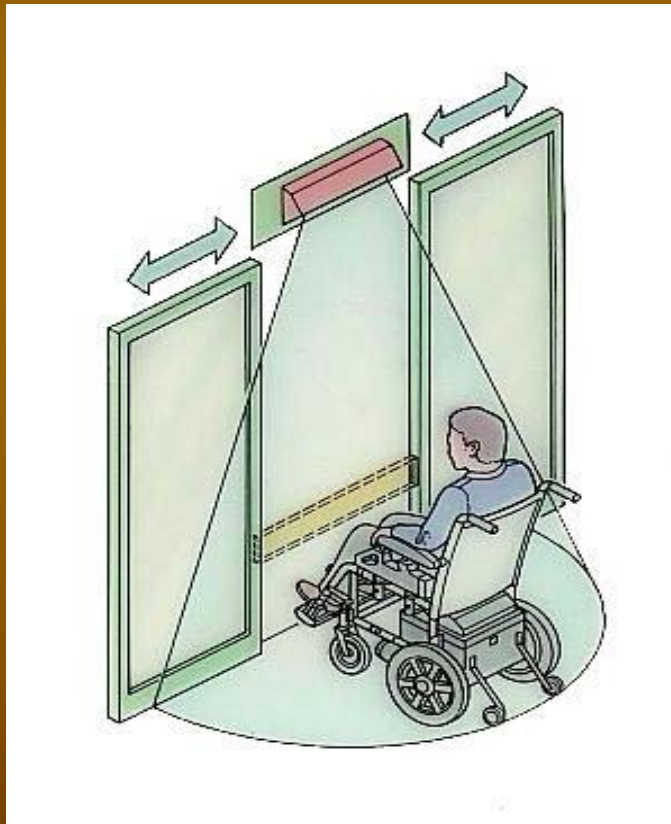
	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

Inclusive
A Microsoft Design Toolkit

Example #1:

Curb Cuts/Automatic Doors

Sliding Glass Doors



Curb Cuts w/ Bumps



Example #2:

Stairs/Ramps (GMU)

**Front Entrance
(Aquia Building)**



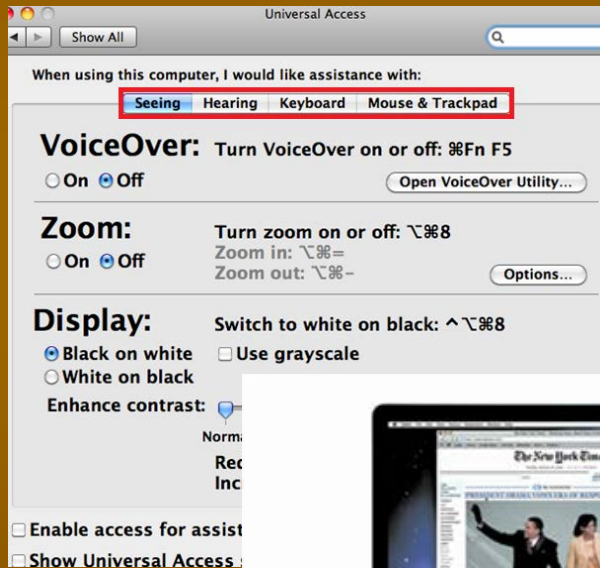
**Ramp Access between
Aquia and SUB I**



Example #3:

Computers/Mobile Devices

Mac OS X



Web-based Tools – *Library Databases* (*Full-text HTML, ReadSpeaker*)

◀ Result List | Refine Search | 21 of 647 ▶

Inglés/Português Translate

Title: Providing Access to Engagement in Learning: The Potential of Universal Design for Learning in Museum Design. By: RAPPOLT-SO
Issue 3

Database: Education Research Complete

Providing Access to Engagement in Learning: The Potential of Universal Design for Learning in Museum Design

Also available as separate PDF

Listen American Accent

Downloadable mp3 file

Built-in text-to-speech capability

Text Highlighting

CONCEPT OF DISABILITY

DESIGNED ENVIRONMENTS AND THE CONCEPT OF DISABILITY

WHAT IS UNIVERSAL DESIGN FOR LEARNING?

LEARNING FROM

Following passage of the Americans with Disabilities Act of 1990 (ADA), many museums improved the accessibility of their facilities. Universal Design for Learning (UDL) provides an alternate model for the design of museum programs that not only provides physical access but also access to engagement in learning. In this article we argue that UDL has the potential to improve museum programs. UDL design guidelines can be used to improve the probability that engagement will occur as it

ARTICLE

The development of long-term, deep interest in topics of personal relevance is critically important to the success of people with disabilities and cultivating such interests. Following passage of the Americans with Disabilities Act of 1990 (ADA), museums moved to increase the reach of their programming and exhibit spaces to people with disabilities. The addition of wheelchair ramps and lowered counter heights, exhibit offerings like the handheld audio guide system developed and implemented by the New York State Museum, and other accommodations provided. While the addition of such accommodations has had a substantial and positive impact on the accessibility of museum spaces, accessibility solutions provide for the improved physical presence of people with disabilities in museums (e.g., people with low vision). But accessibility does not, on its own, allow for the engagement of people with disabilities in the museum experience.

Web-based Tools – *Films on Demand* (Captions and Transcripts)

The screenshot displays the Films on Demand website interface. At the top, the logo reads "FILMS ON DEMAND DIGITAL EDUCATIONAL VIDEO" and the institution is "George Mason University". Navigation tabs include HOME, COLLECTIONS, FEATURED PRODUCERS, PLAYLISTS, and FAVORITES. A search bar is present with a "Search" button. The main content area shows the video title "Inside Tolkien's The Hobbit". Below the title is a video player showing a man speaking, with a subtitle that reads "Marking school examinations in the summertime". To the right of the video player is an "Interactive Transcript" panel. This panel has tabs for "Segments", "Transcript", and "Related". The "Transcript" tab is active, showing a search bar and a list of text segments from the video. A green callout box labeled "Searchable Video Content" points to the transcript text. Another green callout box labeled "Captions" points to the subtitle on the video player. A third green callout box labeled "Interactive Transcript" points to the transcript panel header.

FILMS ON DEMAND
DIGITAL EDUCATIONAL VIDEO

George Mason University

HOME COLLECTIONS FEATURED PRODUCERS PLAYLISTS FAVORITES

Back to Browse Results Bv Segments Search

Inside Tolkien's The Hobbit

Marking school examinations in the summertime

06:37 50:40

Email Playlist Favorite Embed Citation Custom Segment

NOW PLAYING

Inside Tolkien's The Hobbit (50:00)

Source: Coda Books Ltd.

Interactive Transcript

Segments Transcript Related

Interactive Transcript Tutorial

Search Video

The actual beginning though it's not really the beginning, but the actual flash point was, I remember very clearly I can still see the corner in my house in 20... Road where it happened. I got an... pile of exam papers there. Marking... examinations... the summertime is... very laborious and unfortunate... And I remember picking... and actually I nearly gave... five marks, actually... particular... Nothing to think why... hobbit." I... 1937.

As regards the timing... very straightforward. There are no great linguistic devices. But for a first work, Tolkien did an excellent job of tailoring his language perfectly for the audience. He doesn't talk down to them or patronize them, as he was concerned to do himself. And probably the reason for that is that he had his own children. So he was aware just how the language of the book needed to be pitched. And he comes to

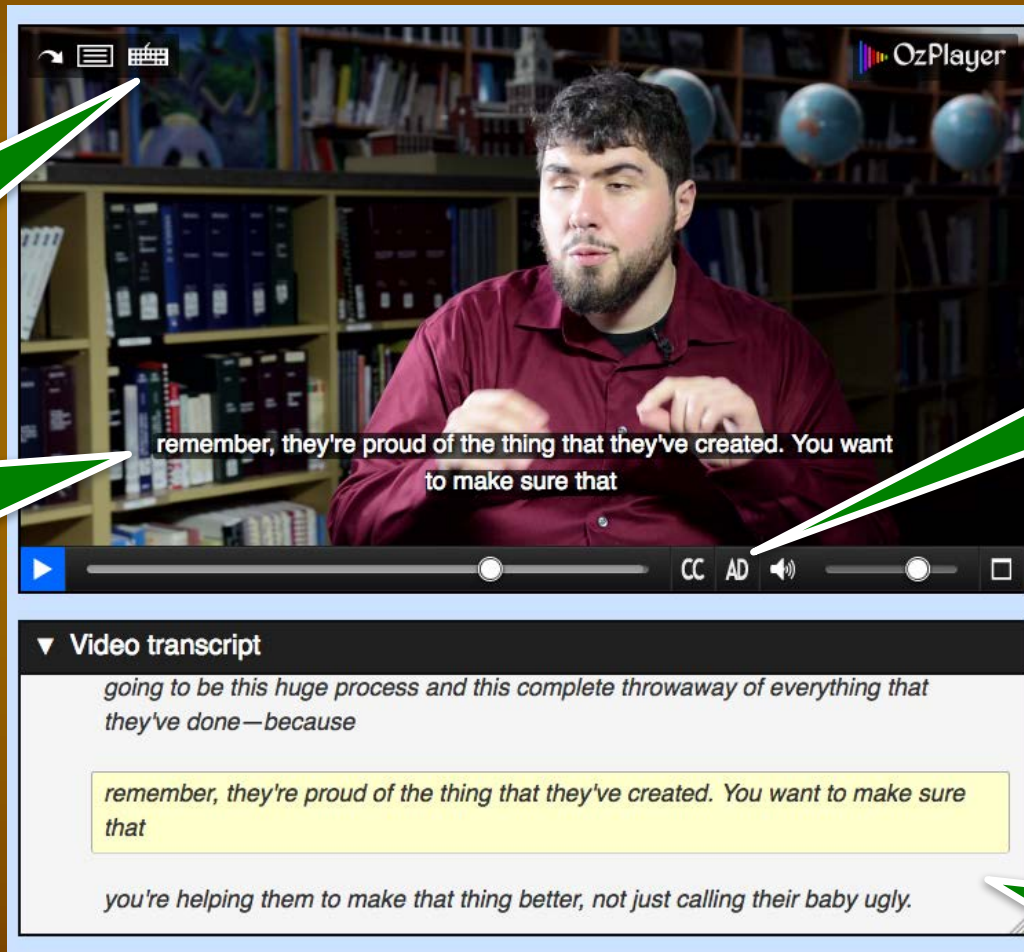
Accessible Video Player: *OzPlayer*

All controls
accessible via
keyboard

Accurate,
synchronized
Captions

Synchronized
audio
description

Interactive
Video
Transcript





Considerations for the online classroom

Universal Design for Learning

Key Points

- Current instructional approaches have common activities that create access barriers
- *Universal Design for Learning* (UDL) is one strategy to remove these barriers
- When implemented consciously these approaches improve the experience for students with disabilities

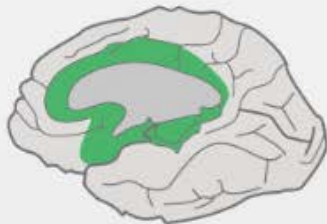


About UDL

Universal Design for Learning Guidelines

GO TO THE UDL GUIDELINES 

AFFECTIVE NETWORKS:
THE **WHY** OF LEARNING



Engagement

For purposeful, motivated learners, stimulate interest and motivation for learning.

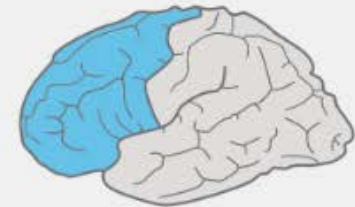
RECOGNITION NETWORKS:
THE **WHAT** OF LEARNING



Representation

For resourceful, knowledgeable learners, present information and content in different ways.

STRATEGIC NETWORKS:
THE **HOW** OF LEARNING



Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

Image Credit: <http://www.cast.org/our-work/about-udl.html#.WKKGgRIrKR8>

UDL vs. Instructional Approach

Question:
Doesn't UDL conflict with
current approaches?

UDL

- Representation
- Engagement
- Action & Expression



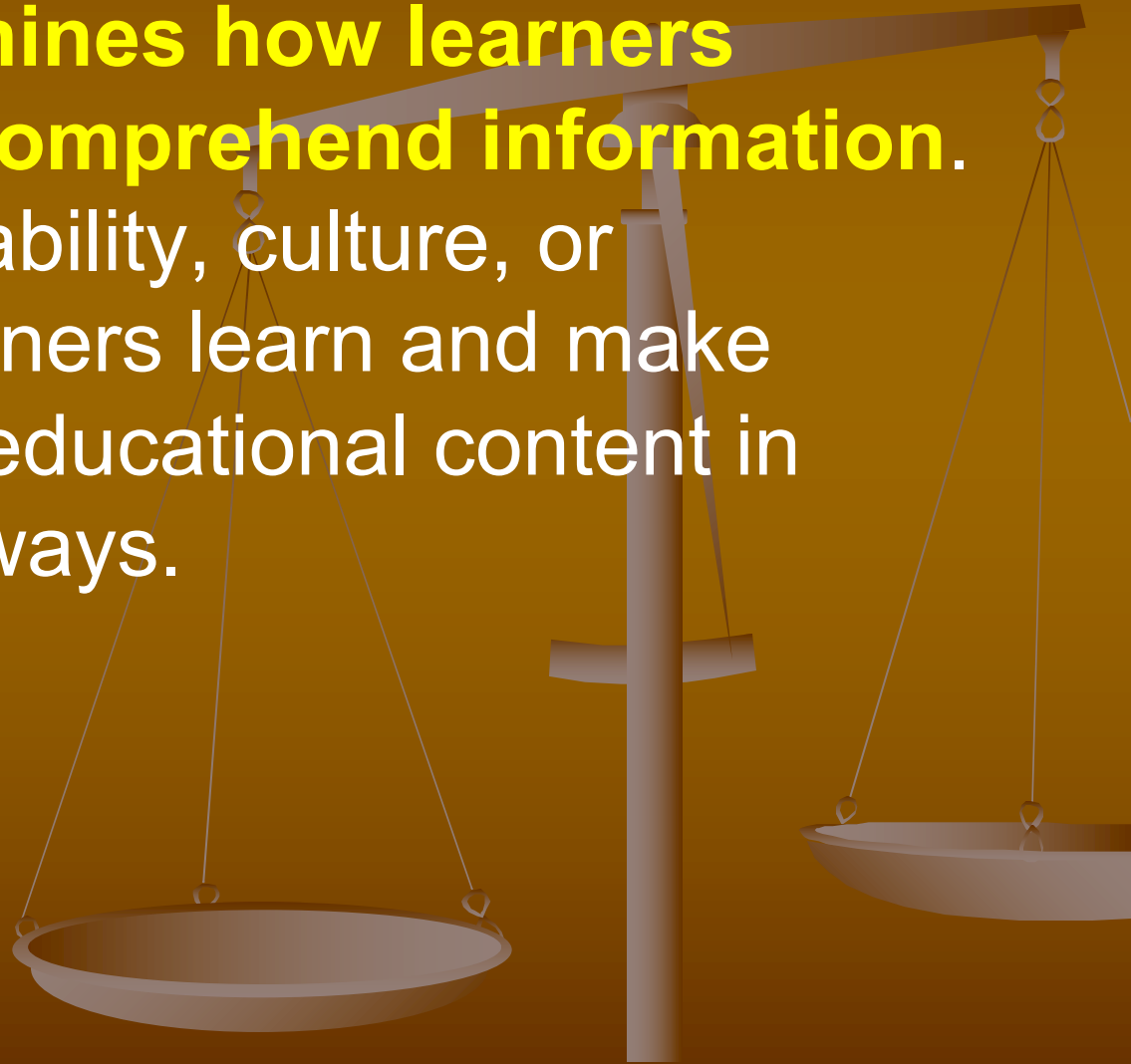
Instructional Approach

- Active
- Blended
- Hybrid
- Fully Online
- Problem-based
- Project-Based
- Team-Based

Multiple Means of Representation

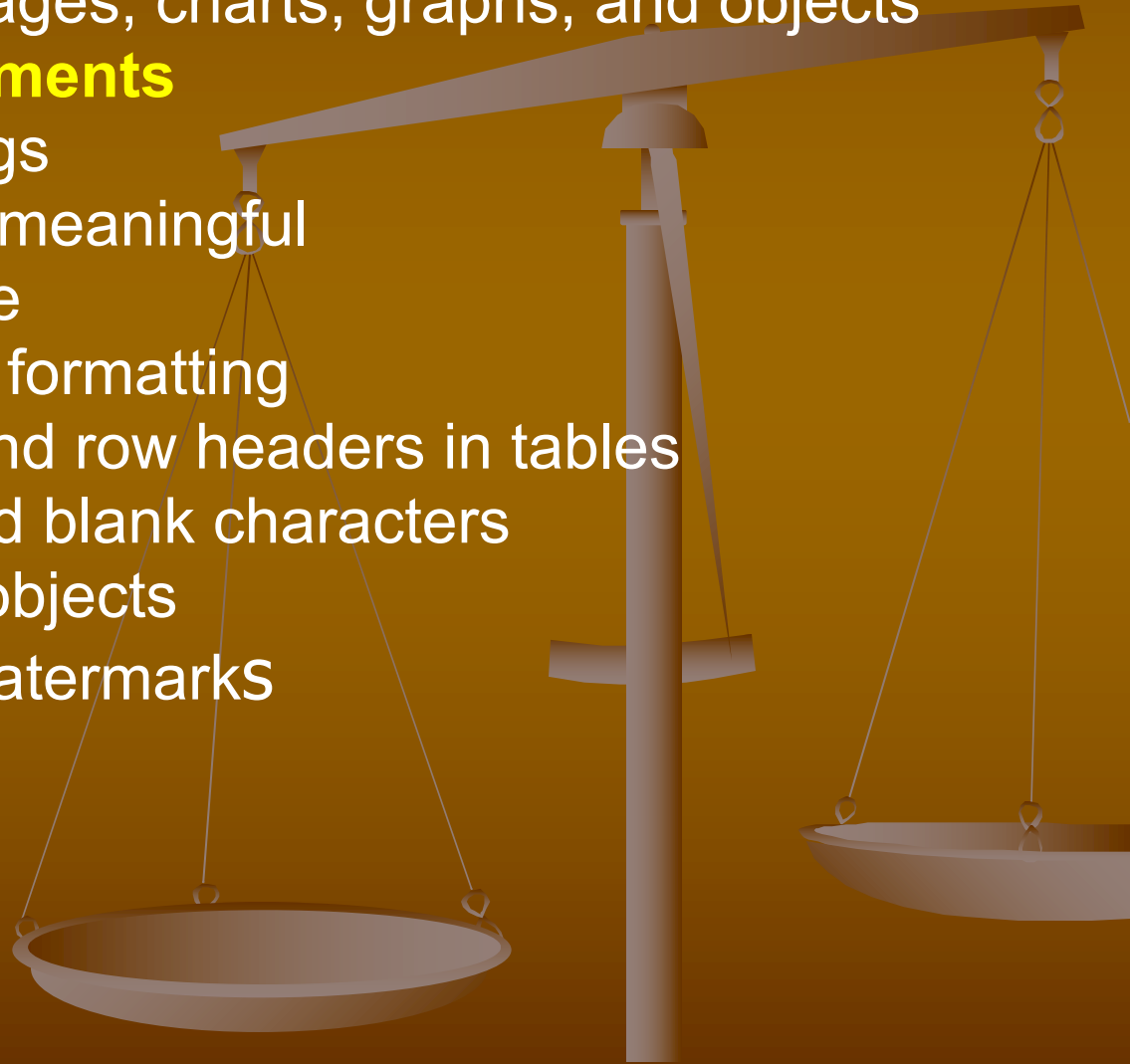
Principle I **examines how learners perceive and comprehend information.**

Whether by disability, culture, or preference, learners learn and make connections to educational content in many different ways.



E.g., Document Accessibility (Word)

- Alternative text to images, charts, graphs, and objects
- **Styles in long documents**
- Short titles in headings
- Hyperlink text that is meaningful
- Simple table structure
 - No blank cells for formatting
 - Specify column and row headers in tables
- Avoid use of repeated blank characters
- Avoid using floating objects
- Avoid using image watermarks



E.g., Using Styles in Long Docs (Word)

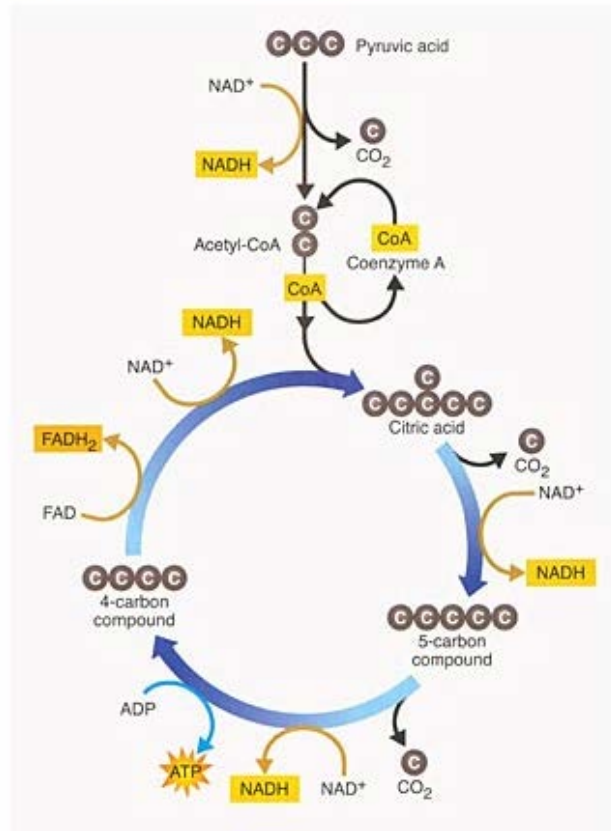
The image is a composite screenshot illustrating the use of styles in a long document in Microsoft Word. It features three overlapping windows:

- Top Window (Word Ribbon):** Shows the 'Home' tab with the 'Styles' group. A red circle highlights the 'Normal', 'Heading 1', 'Heading 2', 'Heading 3', and 'Title' styles. The 'Heading 1' style is currently selected.
- Bottom-Left Window (Document Preview):** Shows a document with a 'Heading 1' style applied to the text 'Heading 1'. Below it is a paragraph of placeholder text: 'Lorem ipsum dolor sit amet, incididunt ut labore et dolore exercitatio ullamco laboris'.
- Bottom-Right Window (Navigation Pane):** Shows the 'Navigation' pane with the 'Navigation Pane' checkbox checked. A red arrow points to the 'What is Cap and Trade?' entry in the list. The list includes various sections like 'Issues with Cap-and-Trade', 'American Clean Energy and Security Act of 2009', 'State-Level Opposition in USA', 'Carbon Tax', 'Carbon Credit Trading', 'Regional Greenhouse Gas Initiative (RGGI)', 'COUNTRY FOCUS - Australia', 'COUNTRY FOCUS - Canada', 'COUNTRY FOCUS - China', 'COUNTRY FOCUS - New Zealand', 'COUNTRY FOCUS - European Union (EU)', and 'COUNTRY FOCUS - Japan'.

The right side of the bottom-right window shows a preview of the document's table of contents, listing sections such as 'What is Cap and Trade?', 'Issues with Cap-and-Trade', 'American Clean Energy and Security Act of 2009...', 'State-Level Opposition in USA...', 'Carbon Tax', 'Carbon Credit Trading is the New "Derivatives" G...', 'Carbon Credit "Manufacturing" - A New Industrial', 'Regional Greenhouse Gas Initiative (RGGI) - The F...', 'COUNTRY FOCUS - Australia...', 'COUNTRY FOCUS - Canada...', 'COUNTRY FOCUS - China...', 'COUNTRY FOCUS - New Zealand', 'COUNTRY FOCUS - European Union (EU)', and 'COUNTRY FOCUS - Japan'.

E.g., Alternative text descriptions for complex images

Process Diagram as Flow Chart



Description:

The Krebs Cycle is depicted as a linear reaction which leads downward into a cyclical reaction. Here, the steps of the reactions are presented as lists.

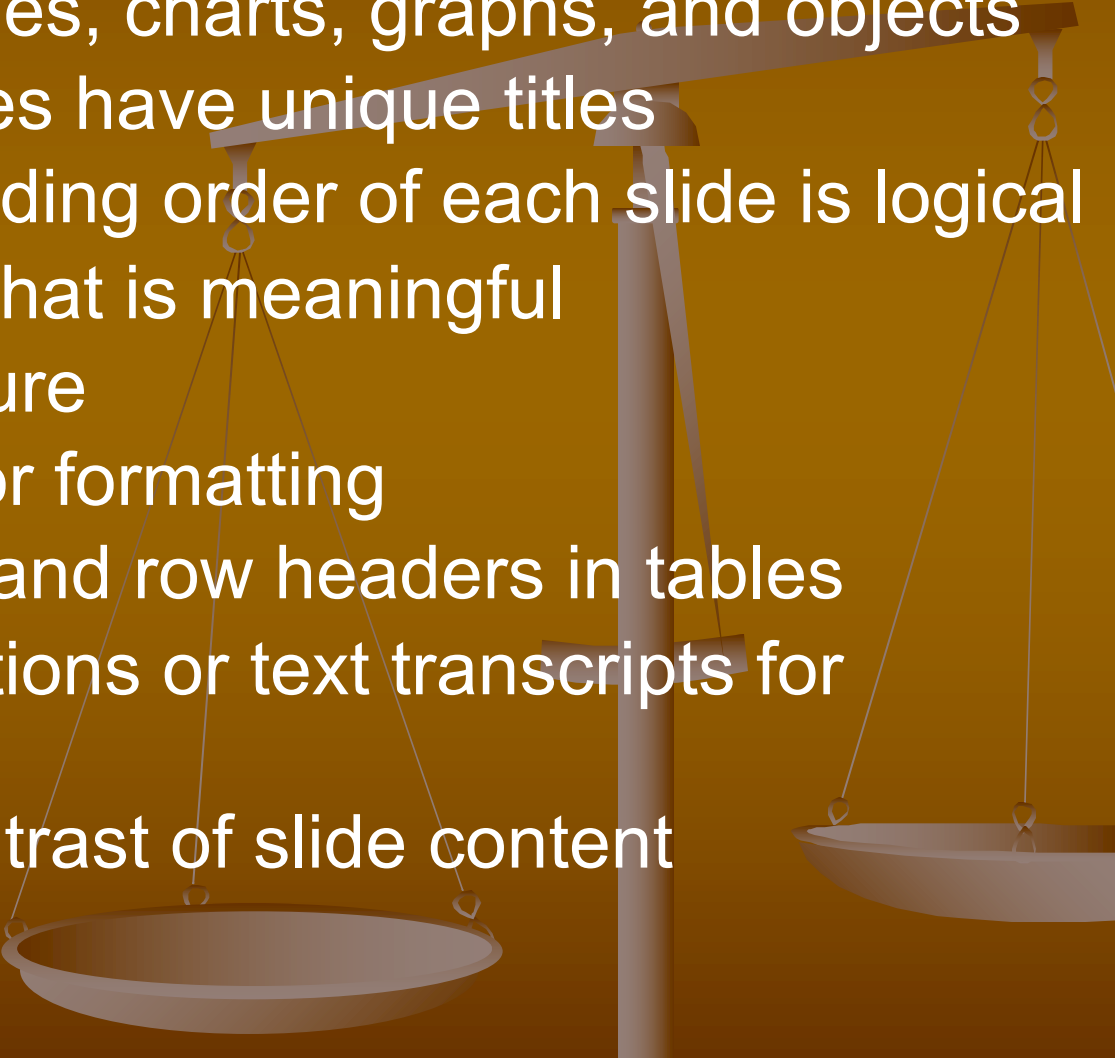
1. Linear Reaction

- Pyruvic acid, a 3-carbon compound.
- One carbon molecule is lost as part of a CO₂ molecule.
- An NAD-positive molecule enters the reaction, then leaves as NADH.
- A 2-carbon acetyl group remains.
- Coenzyme A, or CoA, joins the 2-carbon acetyl group to form Acetyl CoA.
- CoA leaves the reaction as it delivers the acetyl group to the circular reaction.

2. Circular Reaction

- The two-carbon acetyl group joins a four-carbon compound to form a 6-carbon compound, citric acid.
- A carbon is lost as CO₂.
- NAD-positive enters, then leaves as NADH.
- A 5-carbon compound remains.
- another carbon is lost as CO₂.
- NAD-positive comes in and leaves as NADH.
- ADP comes in and leaves as ATP.
- A four-carbon compound remains.
- FAD comes in and leaves as FADH₂.
- NAD-positive comes in and leaves as NADH.
- Back again at the top of the circular reaction, a two-carbon acetyl group from the linear reaction enters, forming the 6-carbon citric acid at the beginning of the cycle.

E.g., Document Accessibility (PPT)

- Add alt text to images, charts, graphs, and objects
 - Ensure that all slides have unique titles
 - Ensure that the reading order of each slide is logical
 - Use hyperlink text that is meaningful
 - Simple table structure
 - No blank cells for formatting
 - Specify column and row headers in tables
 - Include closed captions or text transcripts for audio/video
 - Increase visual contrast of slide content
- 

E.g., Adding Captions to slides with audio (PPT)

The screenshot displays the Microsoft PowerPoint interface. The top ribbon includes tabs for 'Normal', 'Outline View', 'Slide Sorter', 'Notes Page', 'Reading View', 'Slide Master', 'Handout Master', 'Notes Master', 'Ruler', 'Gridlines', 'Guides', 'Notes', 'View Direction', 'Zoom', 'Fit to Window', 'Color/Grayscale', 'New Window', 'Switch Windows', and 'Macros'. The 'Notes' tab is currently selected. The main slide area shows a slide titled 'Sales FY15' with a bar chart. The chart has four categories on the x-axis: Category 1, Category 2, Category 3, and Category 4. Each category has three bars representing Series 1 (green), Series 2 (dark green), and Series 3 (yellow). The y-axis is labeled 'Sales' and ranges from 0 to 6. The slide is part of a presentation with five slides in total, as indicated by the slide sorter on the left. A text box at the bottom of the slide contains placeholder text.

Sales FY15

Sales

Category	Series 1	Series 2	Series 3
Category 1	4.5	2.5	2.0
Category 2	2.5	4.5	2.0
Category 3	3.5	1.8	3.0
Category 4	4.5	2.8	5.0

1. For FY15

1. Introduction

2. Introduction

- Item sales page
- Support email address
- Summary

3. Sales FY15

4. Support sales

5. Introduction

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E.g., STEM Content

- STEM can be particularly challenging
- Tactile graphics (more common), 3D printing (possible)
- Whenever possible:
 - Provide LaTeX or MathML (do not use Equation Editor in Word)
 - Avoid handwritten content

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$$

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

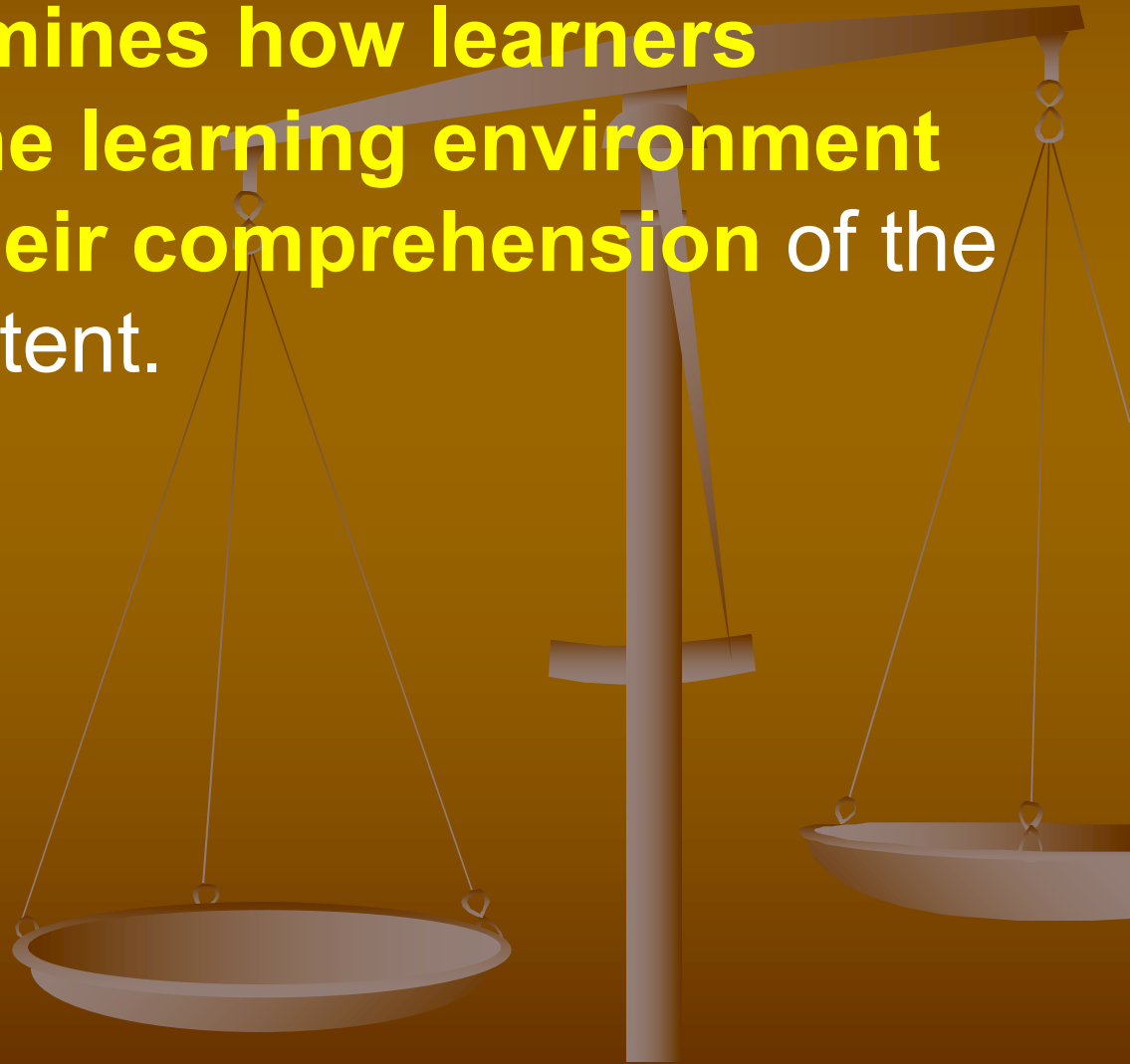
Solving Two-Step Equations

$$\begin{array}{l} 2x + 7 = 13 \\ \frac{1}{2}(2x + 7) = \frac{1}{2}(13) \\ \frac{1}{2} \cdot 2x + \frac{1}{2} \cdot 7 = \frac{13}{2} \\ x + \frac{7}{2} = \frac{13}{2} \\ +(-\frac{7}{2}) \quad +(-\frac{7}{2}) \\ \hline x = \frac{6}{2} = 3 \end{array}$$
$$\begin{array}{l} 2x + 7 = 13 \\ +(-7) \quad +(-7) \\ \hline 2x = 6 \cdot \frac{1}{2} \\ x = \frac{6}{2} \cdot \frac{1}{2} \\ = 3 \checkmark \end{array}$$

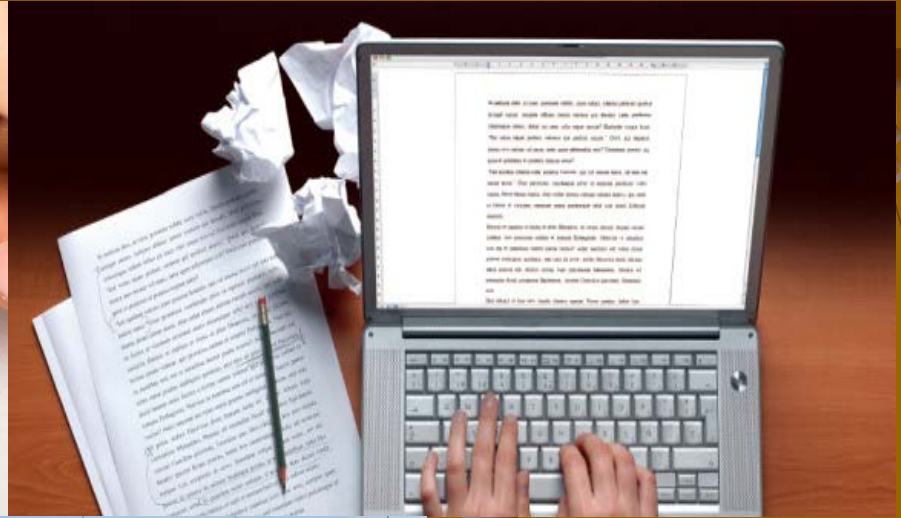
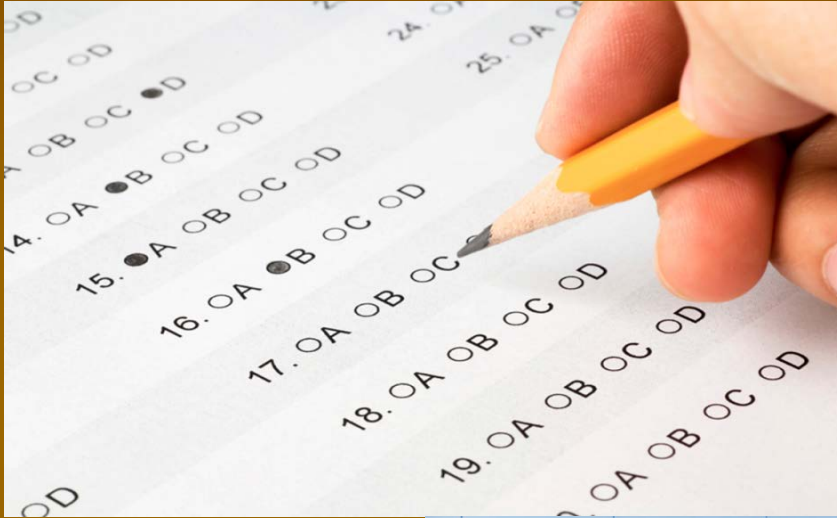
$2 \cdot 3 + 7 = 6 + 7 = 13 \checkmark$

Multiple Means of Action & Expression

Principle II **examines how learners interact with the learning environment and express their comprehension** of the educational content.



E.g., Assessments



Multiple Means of Engagement

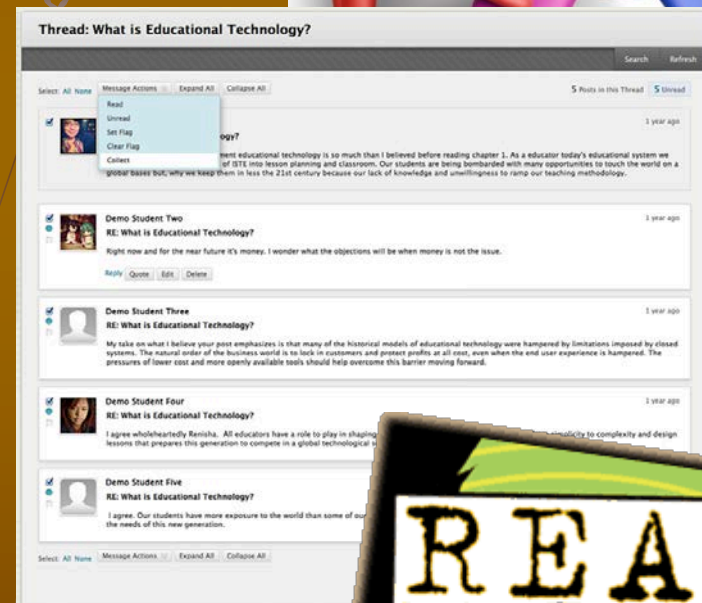
Principle III **focuses on the regulation of emotion to support cognition.**

For that reason, it **examines how learners are engaged or motivated to learn.**



E.g., Group work, reflections, etc.

- Heighten interest and monitor progress by:
 - Engaging students with simple welcome emails/announcements
 - Have students run small group activities/discussions
 - Journals/Personal reflections after each class
 - Tie in real-life examples/activities/discussions





Baseline Design Considerations

Additional Considerations

Baseline Design Considerations for Accessible Electronic & IT Resources

■ **Visual:**

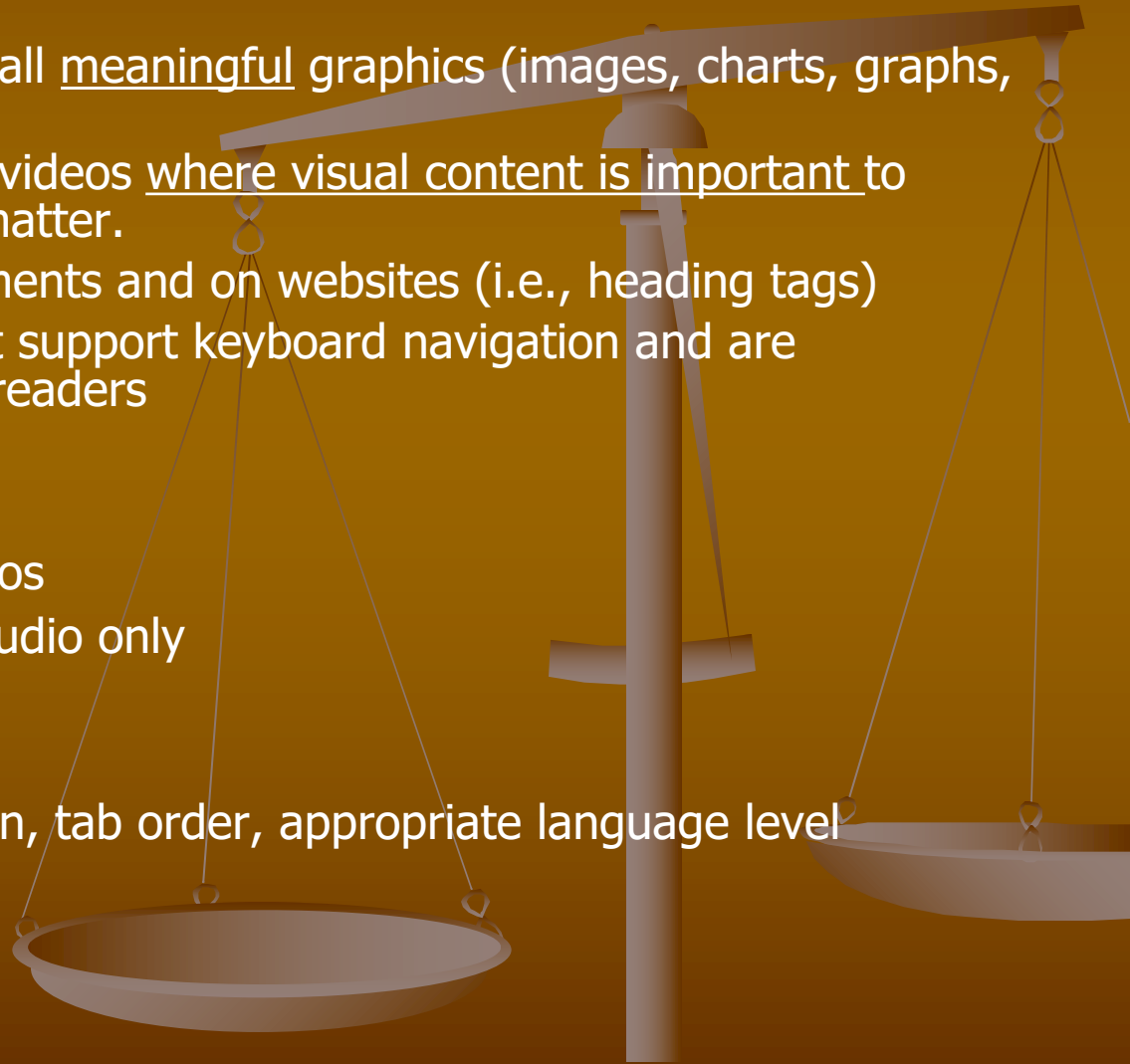
- Provide descriptions for all meaningful graphics (images, charts, graphs, SmartArt, objects)
- Provide descriptions for videos where visual content is important to understanding subject matter.
- Use styles in long documents and on websites (i.e., heading tags)
- Choose applications that support keyboard navigation and are compatible with screen readers

■ **Hearing:**

- Provide captions all videos
- Provide transcripts for audio only

■ **Cognitive, Neurological:**

- Use consistent navigation, tab order, appropriate language level



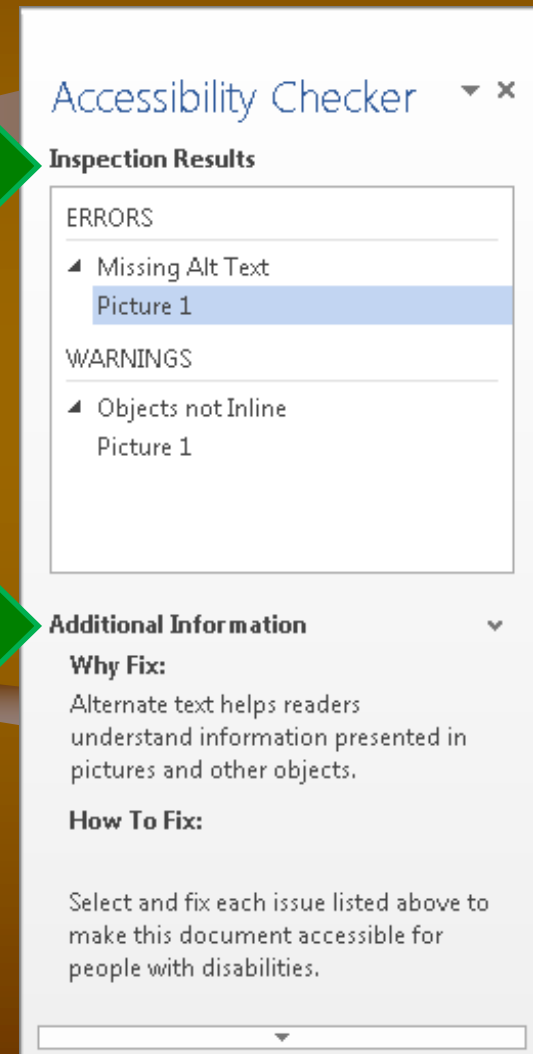
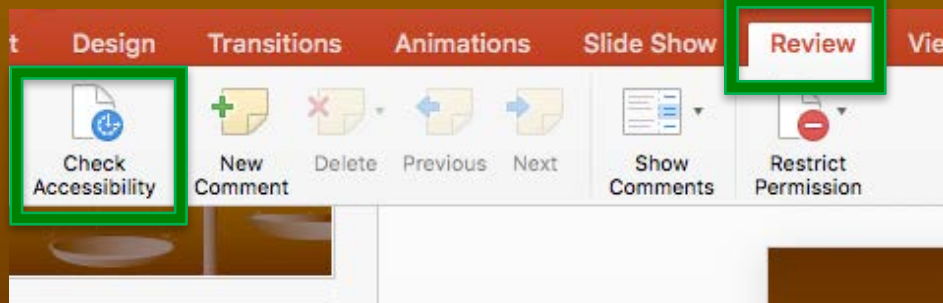


Manual and Automated (Examples)

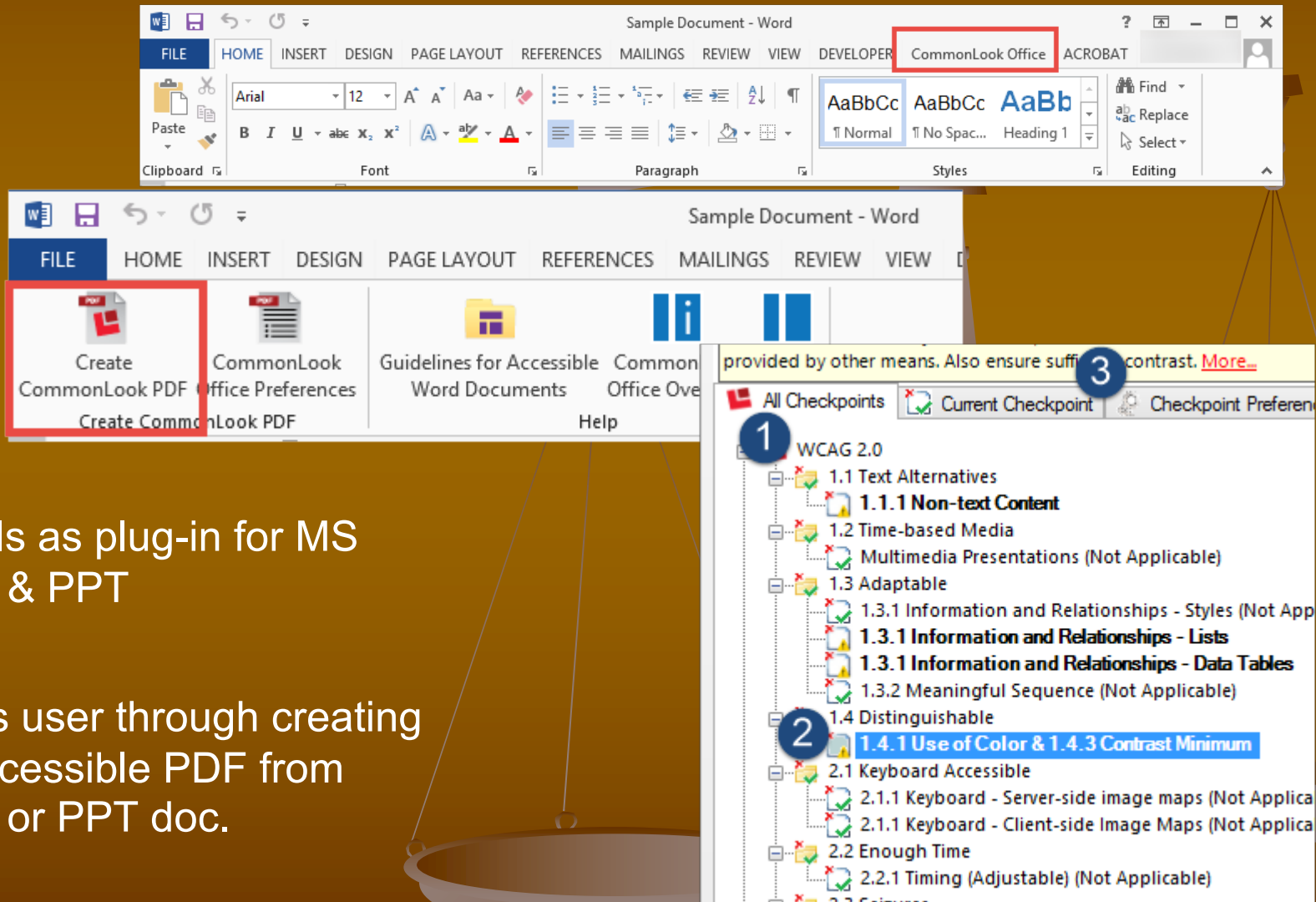
Testing for Accessibility & Usability

Microsoft Office Built-In Accessibility Checker

- Click Review Tab/Check Accessibility
- Accessibility Checker Rules: **Errors**, **Warnings**, and *Tips*
- Additional Info:
 - Rules used by the Accessibility Checker



CommonLook Office Professional



- Installs as plug-in for MS Word & PPT
- Walks user through creating an accessible PDF from Word or PPT doc.

Ally (Blackboard)

- Alternative accessible formats (checks and produces)
- Provides instructor feedback on accessibility considerations
- Institutional reporting
- Coming soon...
 - Brightspace, Moodle, Canvas support



UDOIT (Canvas)

- **Universal Design Online**
content *Inspection Tool*
- Identifies “errors” and provides
“suggestions”
- Checks for appropriate use of:
 - Headings
 - Alternative text for images
 - Table headers
 - Color contrast
 - Video captions
- Free/Open-source



Summary/Questions



Contact Us

Korey Singleton

Assistive Technology Initiative Manager

E-mail: ksinglet@gmu.edu

Phone: 703-993-4329

Kara Zirkle

Accessible Technology Specialist

E-mail: zirklek@miamioh.edu

Phone: 513-529-9006



Additional Resources

- Free PDF checker, auto repair and wizard: [PAVE](#)
- Free PDF checker (Doesn't require Adobe Pro): [Access for All PDF Accessibility Checker \(PAC\)](#)
- Free PDF checker (Does require Adobe Pro): [Commonlook PDF Validator](#)
- Free PDF to HTML tool, great for students use (Does require Adobe Pro): [Callas Software – pdfGoHTML](#)
- If you want to check websites a free resources that allows Section 508 or WCAG 2.0: [Achecker](#)
- Another web accessibility checker for those starting out in accessibility: [WAVE](#)
- Microsoft Office Built In tools: [Making Documents Accessible](#)
- Document Accessibility Toolbar:
 - Visit VisionAustralia.org
 - In the search field: DAT
 - The first link is for [Document Accessibility Toolbar](#).
 - Follow the instructions on the page to download.
- [Portland Community College Accessibility Handbook](#)
- [Microsoft Office Accessibility Checker](#)
- [CommonLook Office Global Access](#)
- [UDOIT](#)
- [Blackboard Ally](#)