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SYSTEM

Accessible Course Design
(Overview and Best Practices)

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Universal Design for Learning and Accessible Design

What Is UDL?

Universal Design for Learning (UDL)

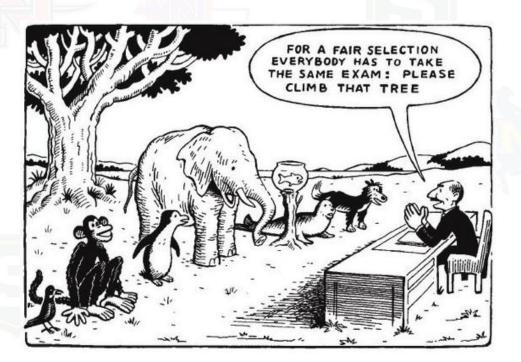
- UDL is a way of designing courses so *all students* can learn, not just a "typical" student.
- It helps instructors plan for student differences from the start instead of reacting later.

The Big Idea

- Instead of fixing barriers mid-semester, UDL reduces them before they happen.
- UDL makes courses easier to navigate, clearer to understand, and more welcoming for all learners.
- "The goal of UDL is learner agency that is purposeful & reflective, resourceful & authentic, strategic & action-oriented." - <u>CAST</u>

Why UDL Matters

- UDL supports first-gen students, multilingual learners, students with disabilities, busy adult learners, and anyone navigating challenges.
- A well-designed course works better for all students and reduces workload for instructors later.



Universal Design for Learning Guidelines

Design Multiple Means of **Engagement**



Design Multiple Means of **Representation**



Design Multiple Means of **Action & Expression**



Design Options for

Welcoming Interests & Identities (7)

- Optimize choice and autonomy (7.1)
- Optimize relevance, value, and authenticity (7.2)
- Nurture joy and play (7.3)
- Address biases, threats, and distractions (7.4)

Design Options for

Perception (1)

- Support opportunities to customize the display of information (1.1)
- Support multiple ways to perceive information (1.2)
- Represent a diversity of perspectives and identities in authentic ways (1.3)

Design Options for

Interaction (4)

- Vary and honor the methods for response, navigation, and movement (4.1)
- Optimize access to accessible materials and assistive and accessible technologies and tools (4.2)

Design Options for

Sustaining Effort & Persistence (8)

- Clarify the meaning and purpose of goals (8.1)
- Optimize challenge and support (8.2)
- Foster collaboration, interdependence, and collective learning (8.3)
- Foster belonging and community (8.4)
- Offer action-oriented feedback (8.5)

Design Options for

Language & Symbols (2)

- Clarify vocabulary, symbols, and language structures (2.1)
- Support decoding of text, mathematical notation, and symbols (2.2)
- Cultivate understanding and respect across languages and dialects (2.3)
- Address biases in the use of language and symbols (2.4)
- Illustrate through multiple media (2.5)

Design Options for

Expression & Communication (5)

- Use multiple media for communication (5.1)
- Use multiple tools for construction, composition, and creativity (5.2)
- Build fluencies with graduated support for practice and performance (5.3)
- Address biases related to modes of expression and communication (5.4)

Design Options for

Emotional Capacity (9)

- Recognize expectations, beliefs, and motivations (9.1)
- Develop awareness of self and others (9.2)
- Promote individual and collective reflection (9.3)
- Cultivate empathy and restorative practices (9.4)

Design Options for

Building Knowledge (3)

- Connect prior knowledge to new learning (3.1)
- Highlight and explore patterns, critical features, big ideas, and relationships (3.2)
- Cultivate multiple ways of knowing and making meaning (3.3)
- Maximize transfer and generalization (3.4)

Design Options for

Strategy Development (6)

- Set meaningful goals (6.1)
- Anticipate and plan for challenges (6.2)
- Organize information and resources (6.3)
- Enhance capacity for monitoring progress (6.4)
- Challenge exclusionary practices (6.5)

• Cultivat

CAST Until learning has no limits°

CAST UDL Guidelines™ | udlguidelines.cast.org | © CAST, Inc. 2024

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Principle 1: Multiple Means of Engagement

Engagement asks, "How do I help students want to learn this?"

- Engagement is about **motivation**, **relevance**, and **investment**. Students connect with material differently:
 - Some love discussion; others prefer reflection.
 - Some are motivated by real-world examples; others by creative problemsolving.
 - Some thrive with collaboration; others learn best individually.
- UDL encourages giving students different paths to become interested and stay invested in the learning.

Principle 2: Multiple Means of Representation

Representation asks, "Can students access and understand the material, no matter how they learn best?"

- Representation is about how content is presented. Students don't all absorb information the same way, so offering more than one format helps everyone:
 - Provide visuals and text.
 - Use charts, diagrams, summaries, and examples.
 - Include captions, transcripts, or simplified explanations when appropriate. This ensures students can choose the version of the material that works best for them.

Principle 3: Multiple Means of Action & Expression

Action/Expression asks, "Can students show mastery in more than one way?"

- Action & Expression is about how students demonstrate learning.
 One single assessment format rarely captures everyone's strengths.
 When possible, UDL recommends giving options:
 - A paper or a presentation
 - A recorded explanation or a written one
 - A diagram, model, short essay, or other medium
- Flexibility helps students show mastery without being limited by one mode of expression.

Variability Is Normal

- In any classroom, students differ in:
 - Language background
 - Reading speed
 - Attention needs
 - Tech comfort
 - Prior knowledge
 - Work schedules and responsibilities
- These differences aren't outliers!
- UDL starts with the assumption that diversity is the norm, so courses need to be flexible enough to serve many types of learners.

Accessibility Comes First in UDL

- If you are designing with UDL in mind, accessibility will become second nature.
- If documents aren't readable, videos lack captions, or navigation is confusing, students are blocked before they begin.
- Accessibility ensures the foundation for UDL is solid so every student can participate meaningfully from day one.

UDL and Accessible Design Reduces Accommodations Later

- When a course is flexible and accessible from the start, fewer students require individual accommodations.
 - Less scrambling mid-semester
 - Less retrofitting of inaccessible materials
 - A smoother experience for instructors
 - More independence and confidence for students
- UDL and accessible design don't replace accommodations, but they greatly reduce the need for one-off fixes.

How UDL Connects to Accessibility Standards

UDL and accessibility aren't separate ideas. They reinforce each other. WCAG's POUR principles describe what accessible content must be:

- **Perceivable** students can see/hear the content
- Operable students can navigate and interact with it
- Understandable students can follow instructions and layout
- Robust content works across technologies and assistive tools

UDL and POUR work together to ensure all students can learn effectively.

- UDL instructional structure
- POUR technical structure

POUR Overview for Course Design

Perceivable (P)

- Structure, headings, contrast
- Alt text/captions/audio descriptions

Operable (O)

- Keyboard access
- Avoiding drag-and-drop
- Clear navigation pathways
- Avoiding unexpected new tabs/windows

POUR Overview for Course Design (continued)

Understandable (U)

- Predictable patterns
- Clear instructions
- Consistent naming
- Transparent link behavior

Robust (R)

- Assistive technology (AT) compatibility
- Voluntary Product Accessibility Template (VPAT)-informed tool selection
- Avoiding inaccessible LTIs/plugins

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Accessible Link Behavior in the LMS

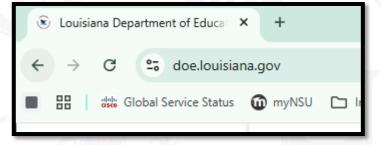
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(Overview and Best Practices)

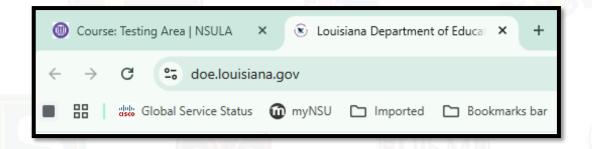
Choices for link behavior in LMS

• Open in same window (Open) – user will have to use "Back" to get

back to course



• Open in new window (or tab) - user can close the new tab and not lose their place within the course



Advice

- Has been: Open in a new window or tab to avoid closing/losing the LMS window
- MOST accessible: Open in the same tab or window
- If opening in a new window, label (open in new window)

** Be CONSISTENT – Still the number one design rule

WCAG 3.2

Make web pages appear and operate in predictable ways

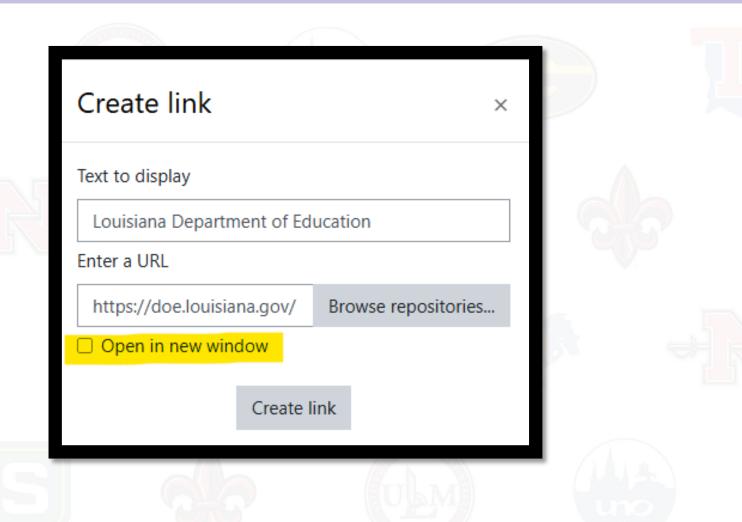
 Suddenly moving to a new window can be disorienting for screen reader users

When "open in new window" is best option

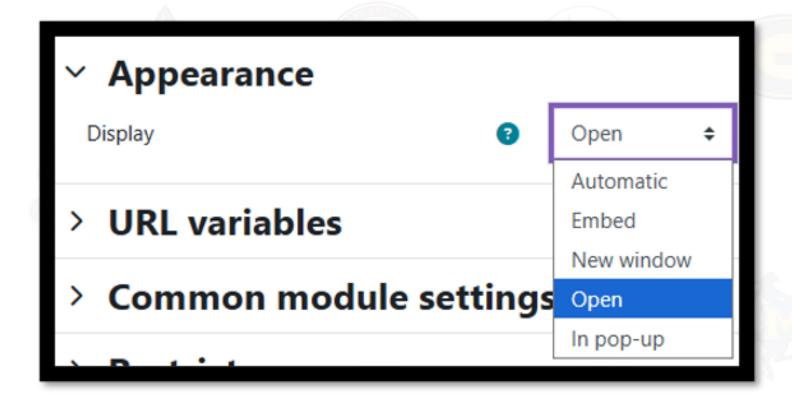
• Student needs to reference the information on the site to complete something open in the LMS



Moodle (Link on Page)



Moodle (URL Resource)

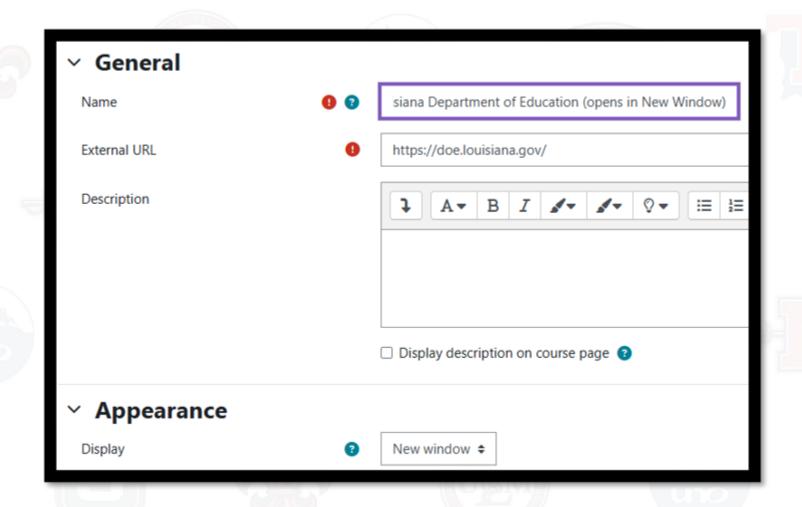


Automatic opens the link text on another page; requires a second click

Embed only works for certain media links (but does keep the student in the same window)

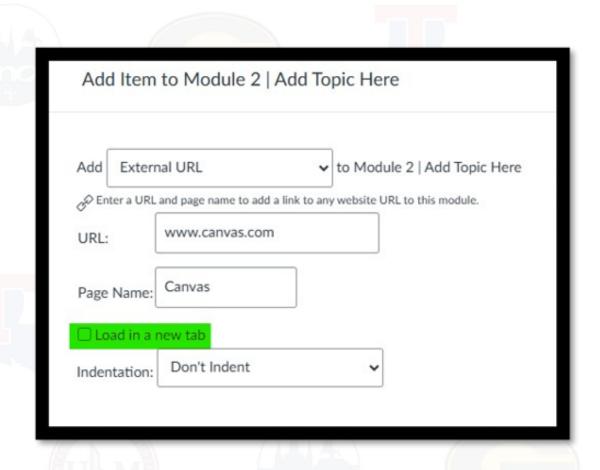
In pop-up – not recommended; possibly most disorienting option

URL resource that opens in new window



Canvas link

- When adding an external link to Canvas, do not choose to 'Load in a new tab' unless you have a specific reason.
- Canvas defaults to not loading in new tab. Some links may not open in the Canvas tab. Be sure to check.



Summary

- MOST accessible choice open in same window or tab for most items
- If you choose Open in New Tab or Window, be sure to add (Opens in new window) to link text – to warn users of the upcoming change
- Whatever you choose to do, the best <u>design</u> advice is to be as consistent as possible within your course.

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S Y S T E M

Choosing Accessible Applications

(Overview and Best Practices)

General Information

- ALL applications used in a course need to meet compliance standards (WCAG 2.1 AA)
- When choosing NEW applications to include in courses
 - Each university will have procedures
 - Some may have approved/unapproved software lists
 - Some may have repositories of compliance information collected
 - Not all applications go through formal purchase process

Evaluation Steps

- Look for information on the vendor site accessibility statement is a good start. (tip: Google "vendor name accessibility")
- Find or request the Accessibility Conformance Report/VPAT (some vendors place on-site, and some give an email address to request).
- Read and evaluate; conduct tests when possible.
- Institutions should include accessibility assurance in vendor contracts. This will usually be a purchasing department or IT function.
- Pass information on to IT support for assistance with the final decision.

Definitions

- WCAG: Web Content Accessibility Guidelines
- Accessibility Statement: A public document that describes an organization's commitment to making its digital content, products, and services accessible to people with disabilities.
- VPAT: Voluntary Product Accessibility Template; describes what standards are met and planned remediation
- ACR: Accessibility Conformance Report (often also referred to as VPAT)
- ** VPAT is the blank, standardized template; ACR is the completed, filled-in document that results from filling out the VPAT.

VPAT/ACR

General setup

- List of the WCAG (or other) standards
- Levels of achievement of each
 - Supports
 - Partially Supports
 - Does Not Support
 - Not Applicable

Look for:

- Who completed the report?
- What technologies were used to test?
- What standards are not supported?
- Is there a timeline for remediation to meet those standards?
- How would unmet standards impact a user?

Example (Pearson VitalSource Bookshelf)

VitalSource Bookshelf (Online) Accessibility Conformance Report

International edition, based on VPAT® version 2.4Rev*

Name of product/version:	VitalSource Bookshelf Online	
Report date:	3 January 2024	
Product description:	Website	
Contact information:	accessibility@vitalsource.com	
Notes:		
Evaluation methods used:	This conformance report is based on the results of an accessibility audit conducted by TPGi on a representative sample of pages/components across selected user journeys, for the purpose of assessing conformance to accessibility guidelines. The WCAG-EM) was followed for conducting the accessibility audit. The testing included manual accessibility testing, automated accessibility tools, and testing with assistive technology across multiple platforms and browsers. The following applications were used as part of the audit to identify potential accessibility issues:	
Applicable standards/guidelines:	This report covers the degree of conformance for the following accessibility standards/guidelines: • Web Content Accessibility Guidelines (WCAG) 2.0 Level A and AA • Web Content Accessibility Guidelines (WCAG) 2.1 Level A and AA • Revised Section 508 standards published January 18, 2017 and corrected January 22, 2018 • EN 301 549 Accessibility requirements for ICT products and services - V3.1.1 (2019-11) and EN 301 549 Accessibility requirements for ICT products and services - V3.2.1 (2021-03)	



Example Conformance Standards (Pearson VitalSource Bookshelf)

Criteria	Conformance level	Remarks and explana'ons
1.1.1 Non-text Content (Level A) Also applies to: EN 301 549 Criteria • 9.1.1.1 (Web) • 10.1.1.1 (Non-web document) • 11.1.1.1.1 (Open Functionality Software) • 11.8.2 (Closed Functionality Software) • 11.8.2 (Authoring Tool) • 12.1.2 (Product Docs) • 12.2.4 (Support Docs) Revised Section 508 • 501 (Web)(Software) • 504.2 (Authoring Tool)	Partially supports	Non-text content that is presented to the user has a text alternative that serves the equivalent purpose, with just one exception an incorrect alt text for a corporate logo (on sign on pages). Note that book content is out of scope – individual publishers are responsible for the content that they provide
 602.3 (Support Docs) 1.2.1 Audio-only and Video-only (Prerecorded) (Level A) Also applies to: EN 301 549 Criteria 9.1.2.1 (Web) 10.1.2.1 (Non-web document) 	Not applicable	The application contains no audio-only or video-only content.

Red Flags in a VPAT or ACR

- Inaccurate or unclear description of product
- Everything says "Supports" with no detail
- Report does not seem to accurately represent product features
- Tool hasn't been tested with screen readers
- No mention of keyboard navigation
- Report is more than a year old, or not dated
- No timeline for updating features that do not meet standards
- Possible: Report done internally

Green Flags in a VPAT or ACR

- Report completed by external reviewer
- Recent
- Not all "Supports" without adequate description
- Timelines provided for remediation where necessary

If some standards are not met

If a product does not meet standards sufficiently (and you still need/want to use it):

- Develop a timeline for updates
- Update the contract to reflect expectations
- Have an alternative in place for meeting needs of users

Summary

- Work with IT/purchasing at your school to make decisions about adoption of new applications
- You can acquire vendor documentation
- Understand the basics of evaluating accessibility documentation
- If possible, do some testing prior to purchase/adoption