Online Tutorial Design using UDL and DI

Lori Mestre
lmestre@illinois.edu

UTL PD Day

UNIVERSITY LIBRARY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
Online Tutorial Design using UDL and DI

Lori S. Mestre
University of Illinois at Urbana-Champaign

8:30-9:00 Coffee, Calories, and Casual Conversation
9:00 - 9:15 Welcome, Introductions, Workshop Orientation
9:15 - 9:30 Successes and Barriers Discussion
9:30 - 10:15 UDL and DI Overview
10:15 - 10:30 Break
10:30 - 11:00 Modification Exercises
11:00 - 11:45 Reflection, Discussion, and Sharing
11:45 - 12:15 UDL and DI Frameworks
12:15 - 1:15 Lunch
1:15 - 1:45 UDL resources – Pack your Toolbox
1:45 - 2:30 Make a Plan & Use your Tools
2:30 - 2:45 Break
2:45 - 3:30 Strut your Stuff – Share Your Successes or New Plan
3:30 - 4:00 Wrap Up & Evaluations
Workshop Goals

Participants will understand the concepts of Universal Design for Learning (UDL) and Differentiated Instruction (DI) and applications to educational practice.

Participants will gain experience modifying existing resources to incorporate UDL and DI elements.

Participants will develop action steps that address the essential question: *How can I incorporate UDL and DI into my practice?*
Successes and Barriers Discussion

Software Used

Also, Photoshop, Screenr, Jing, google docs, Guide on the side
Survey Results

Teach Concepts
- Yes: 79%
- No: 21%

Mechanics
- Yes: 15%
- No: 85%

Usability or Pilot Tests?
- Yes: 4%
- No: 96%

Systematic Approach with UTL Guidelines?
- Yes: 33%
- Generally: 50%
- What guidelines?: 30%
Survey Results

**Feedback for Objects?**

- Other colleagues: 54%
- Students: 25%
- No systematic approach: 71%

**Length of Learning Objects**

- Less than 2 minutes: 21%
- 2-4 minutes: 46%
- 5-10 minutes: 8%

**Do you design for various learning styles?**

- Text based only: 29%
- Visual, along with the text: 75%
- Visual and auditory: 42%
- Interactive: 33%

**Ability for User to Pick and Choose?**

- No Options: 33%
- Sometimes: 38%
- Yes: 13%
Other notes:

• 92% of the time there are options for getting help.

• 54% don’t currently include quizzes or feedback options, but would like to

• Only 25% systematically provide accessible alternatives and knew it was a requirement

• 54% include features to make the learning objects more personal

• You use a variety of tools to assess the effectiveness of your objects, colleagues, instructors, analytics, usability testing
UDL and DI Overview

Universal Design for Learning

What it is

Relationship to Learning Styles

Suggestions
Universal Design for Learning

What it is... it breaks the myth of the average learner
Universal Design for Learning

[Image of a brain with different lobes and functions labeled:]

- Motor control
- Touch and pressure
- Taste
- Body awareness
- Language
- Reading
- Vision
- Hearing
- Smell
- Speech
- Concentration, planning, problem solving

Legend:
- Red: Frontal lobe
- Orange: Parietal lobe
- Light green: Temporal lobe
- Light yellow: Occipital lobe
- Blue: Cerebellum

Askabiologist.asu.edu
What’s your process for putting together a puzzle? Borders 1st?
Or more by concept, color....?
What’s your Process for Putting Together Puzzles?

A. Do all the borders first
B. Look for groupings, concepts, colors

0%
Universal Design and Diversity

United Nations declared Toronto, the most ethnically diverse city in the world.

47%

12% South Asian
11.4% Chinese
8.4% Black
4.1% Filipino
2.6% Latin American
8.5% Others

1.16 million people reported themselves as being part of a visible minority.

Stats: Statistics Canada
Universal Design and Diversity
UDL helps us:

- Modify the learning environment, not the learner
- Recognize “learner variability” as a norm
- Remove barriers through thoughtful, proactive design
- Carefully consider goals
Universal Design for Learning Guidelines

I. Provide Multiple Means of Representation
1: Provide options for perception
1.1 Offer ways of customizing the display of information
1.2 Offer alternatives for auditory information
1.3 Offer alternatives for visual information

2: Provide options for language, mathematical expressions, and symbols
2.1 Clarify vocabulary and symbols
2.2 Clarify syntax and structure
2.3 Support decoding of text, mathematical notation, and symbols
2.4 Promote understanding across languages
2.5 Illustrate through multiple media

3: Provide options for comprehension
3.1 Activate or supply background knowledge
3.2 Highlight patterns, critical features, big ideas, and relationships
3.3 Guide information processing, visualization, and manipulation
3.4 Maximize transfer and generalization

II. Provide Multiple Means of Action and Expression
4: Provide options for physical action
4.1 Vary the methods for response and navigation
4.2 Optimize access to tools and assistive technologies

5: Provide options for expression and communication
5.1 Use multiple media for communication
5.2 Use multiple tools for construction and composition
5.3 Build fluencies with graduated levels of support for practice and performance

III. Provide Multiple Means of Engagement
7: Provide options for recruiting interest
7.1 Optimize individual choice and autonomy
7.2 Optimize relevance, value, and authenticity
7.3 Minimize threats and distractions

8: Provide options for sustaining effort and persistence
8.1 Heighten salience of goals and objectives
8.2 Vary demands and resources to optimize challenge
8.3 Foster collaboration and community
8.4 Increase mastery-oriented feedback

9: Provide options for self-regulation
9.1 Promote expectations and beliefs that optimize motivation
9.2 Facilitate personal coping skills and strategies
9.3 Develop self-assessment and reflection

Checkpoints:
- Resourceful, knowledgeable learners
- Strategic, goal-directed learners
- Purposeful, motivated learners

© 2011 by CAST. All rights reserved. www.cast.org, www.udlcenter.org
Principle 1. Provide Multiple Means of Representation – the WHAT of Learning

- Help with options for what is represented
- Narrate, highlight phrases
- Built-in talking glossary
- Multiple representations

Principle II. Provide Multiple Means of Action and Expression – the HOW of Learning

- Text, Visual, videos, multimedia, audio, narration
- Concept maps, graphic organizers, choices, pathways, guided instruction
- Student participation/interactivity

Principle III. Provide Multiple Means of Engagement the WHY of Learning

- Options for different challenge levels, novice/expert
- Different feedback options/assessment
- Reflection opportunities
- Scaffolding
- Connecting between examples/transferability

http://www.udlcenter.org/implementation/examples
UDL and DI Overview

Differentiated Instruction: How to Reach and Teach all Students

What it is

Relationship to Learning Styles

Suggestions
Differentiated Instruction means . . .

“Teachers proactively plan varied approaches

• to what students need to learn,
• how they learn it, and/or
• how they will show what they have learned

in order to increase the likelihood that each student will learn as much as he or she can, as efficiently as possible.”

http://www.differentiationcentral.com/whatisdi.html
Traditional Classroom vs. Differentiated Classroom

**TRADITIONAL**
- Differences are acted upon when problematic.
- Assessment is most common at the end of learning to see “who got it”
- A relatively narrow sense of intelligence prevails
- Coverage of curriculum guides drives instruction
- Whole class instruction dominates
- A single text prevails

**DIFFERENTIATED**
- Differences are studied as a basis for planning.
- Assessment is on-going and diagnostic to make instruction more responsive to learner needs
- Focus on multiple forms of intelligences is evident
- Student readiness, interest, and learning profile shape instruction
- Many instructional arrangements are used
- Multiple materials are provided

Adapted from “The Differentiated Classroom: Responding to the Needs of All Learners,” by Carol Ann Tomlinson, 1999, p.16
UDL and DI Related to Learning Styles

Learning Styles

Modifications

Learning Objects
Have You Taken a Learning Style Quiz in the Past Year?

A. Yes
B. No
What’s Your Learning Preference?

A. Visual  
B. Auditory  
C. Read/Write  
D. Kinesthetic
Vark: Guide to Learning Styles

Visual

Aural

Read/Write

Kinesthetic
NCSU Questionnaire (Feldman/Soloman)

- Active/Reflective
- Sensing/Intuitive
- Visual/Verbal
- Sequential/Global
## Learning Styles Results

Results for: Lori Mestra

<table>
<thead>
<tr>
<th>Style</th>
<th>Score</th>
<th>Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>SEN</td>
<td>9</td>
<td>INT</td>
</tr>
<tr>
<td>VIS</td>
<td>7</td>
<td>VRB</td>
</tr>
<tr>
<td>SEQ</td>
<td>7</td>
<td>GLO</td>
</tr>
</tbody>
</table>

- If your score on a scale is 1-3, you are fairly well balanced on the two dimensions of that scale.
- If your score on a scale is 5-7, you have a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favors that dimension.
- If your score on a scale is 9-11, you have a very strong preference for one dimension of the scale. You may have real difficulty learning in an environment which does not support that preference.
Cultural Differences Can Influence Learning

- Different Dimensions of Learning
- Instructional Practices
- Information Processing
- Social Interaction Tendencies
- Influence of Personality
Results: NCSU Learning Style Assessment
<table>
<thead>
<tr>
<th></th>
<th><strong>Active Learner</strong></th>
<th><strong>Reflective Learner</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instruction</strong></td>
<td>Class Participation</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reflection Time</td>
</tr>
<tr>
<td><strong>Assignments</strong></td>
<td>Model Building</td>
<td>Problem Sets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Journaling</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Projects</td>
<td>Problem Solving</td>
</tr>
<tr>
<td></td>
<td>Reports</td>
<td>Essays</td>
</tr>
<tr>
<td><strong>Reference</strong></td>
<td>Field Trips</td>
<td>Observations</td>
</tr>
<tr>
<td></td>
<td>Virtual Field trips</td>
<td>Readings</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Meetings</td>
<td>Webcasts</td>
</tr>
<tr>
<td></td>
<td>Sensing Learner</td>
<td>Intuitive Learner</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Images</td>
<td>Case Studies</td>
</tr>
<tr>
<td></td>
<td>Sounds</td>
<td>Hypothesis Setting</td>
</tr>
<tr>
<td></td>
<td>Demos</td>
<td></td>
</tr>
<tr>
<td><strong>Assignments</strong></td>
<td>Creation of Demos</td>
<td>Problem Solving</td>
</tr>
<tr>
<td></td>
<td>Images</td>
<td>Resolution Building</td>
</tr>
<tr>
<td></td>
<td>Case Studies</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Detail Tests</td>
<td>Outcome Projections</td>
</tr>
<tr>
<td></td>
<td>Audio Tests</td>
<td></td>
</tr>
<tr>
<td><strong>Reference</strong></td>
<td>Field Trips</td>
<td>Compare &amp; Contrast</td>
</tr>
<tr>
<td></td>
<td>Virtual Field Trips</td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Conferencing Tools</td>
<td>Group Work</td>
</tr>
<tr>
<td>Category</td>
<td>Visual Learner</td>
<td>Auditory Learner</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Video Clips</td>
<td>Lecture</td>
</tr>
<tr>
<td></td>
<td>Diagrams &amp; Images</td>
<td>Audio clips</td>
</tr>
<tr>
<td></td>
<td>Maps</td>
<td></td>
</tr>
<tr>
<td><strong>Assignments</strong></td>
<td>Mind Mapping</td>
<td>Interviews</td>
</tr>
<tr>
<td></td>
<td>PowerPoint With Images</td>
<td>Seminars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reports &amp; Speeches</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Id on Maps</td>
<td>Sound Identification</td>
</tr>
<tr>
<td></td>
<td>Drawings and Sketches</td>
<td>Verbal tests</td>
</tr>
<tr>
<td></td>
<td>Read &amp; response</td>
<td></td>
</tr>
<tr>
<td><strong>Reference</strong></td>
<td>Reference maps</td>
<td>Video/Audio Clips</td>
</tr>
<tr>
<td></td>
<td>Diagrams/Pictures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Articles</td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Whiteboard</td>
<td>Phone</td>
</tr>
<tr>
<td></td>
<td>Chat</td>
<td>Audio Conferencing</td>
</tr>
</tbody>
</table>
Match up Learning Objects with Learning Style Preferences
Which styles are being met here?

https://www.youtube.com/watch?feature=player_embedded&v=WFnmwrhJA_Q&t=0
Study Overview

Survey to Librarians

20 Student Interviews (mix of ethnicities)
Usability Assessment
Options for Learning through Multiple Modalities From a Survey to Librarians

- Visual and auditory: 35%
- All three: 28%
- Varies: 20%
- Text with screen shots or images: 10%
- Visual only: 5%
- Text only: 2%

Do you design for various learning styles?

- Text based only: 29%
- Visual, along with the text: 75%
- Visual and auditory: 42%
- Interactive: 33%

Responses from YOU
Do you Plan your Objects So That a User Can Pick and Choose What To Do Next?

A. Yes
B. No
C. It Varies

0%
Do you plan your objects so that a user can pick and choose what to do next?

(From a previous study)

- **No**: 64%
- **Yes**: 20%
- **Varies**: 16%
Student Involvement for Study

Two learning style inventories

Two – three tutorials – usability and feedback
Student Results- Ability to Recreate Steps

Static Tutorial Results
“good to show us how to do something”

Camtasia Tutorial Results
“good to explain a concept”
2. Select Cambridge Scientific Abstracts

3. Click on Advanced Search, and examine some of the options in the pull-down menus, such as Keywords (KW), Author (AU), Title (TI), Abstract (AB), Descriptor (DE)*, Publication Type (PT), and others.
Static Tutorial Results

- **Scrolled up and down the page** to see all the sections and what was required
- **Viewed images** (rarely read the text)
- Opened a **new window to practice** while they viewed the web page
- **Went back** to web page for information
- Most **successful** in finding information after this.
Camtasia Version

Use descriptors to search for the key subjects of the article.
Camtasia Results

- Watched without practicing
- Couldn’t recreate process
- Didn’t attempt to go back for assistance
- Only two students were successful in the post test (graduate Asian students)
What Primary Learning Objects Do You Use? Please choose

A. Video Tutorials  
B. Games  
C. Podcasts  
D. Images  
E. Scenarios  
F. All of the Above
What Primary Learning Objects Do You Use?

1. Video Tutorials 59%
2. Games 3%
3. Podcasts 0%
4. Images 3%
5. Scenarios 10%
6. All of the Above 26%

From a previous study
Break
Modification of Tutorials

Tutorials

Images

Videos

Polls

Games

Podcasts

Scholarly versus Popular Articles
Which version do you think students preferred?

A. Version 1

B. Version 2
Which version do you think students preferred?

1. Version 1
2. Version 2

Student response

- Version 1: 13%
- Version 2: 87%
What addition do you think students suggested?

A. Audio Clips
B. Pop up or video clip showing marked up paper
C. Both
What addition do you think students suggested?

1. Audio Clips
2. Pop up or video clip showing marked up paper
3. Both

Student results:
- 13% for Audio Clips
- 39% for Pop up or video clip
- 47% for Both
Which would you choose?

A. Drag & Drop citation

B. Type in the citation

**APA Citation Style**

Let's practice! How would you cite this book?

| Blink: The Power of Thinking without Thinking by Malcolm Gladwell |
|---|---|
| Copyright 2005 Little Brown & Co. New York, NY |

Type your citation
Which would you choose?

1. Drag and drop citation

2. Type in the citation

**APA Citation Style**

Let's practice! How would you cite this book?

| Blink: The Power of Thinking without Thinking by Malcolm Gladwell |
| Copyright 2005 Little Brown & Co. New York, NY |


*Drag the pieces into the empty box to correctly format the citation and then click here to check your answer.*

Student results:

- 77%
- 23%
What do you think users asked for here?

A. Animated figure to read the text
B. Video clip or a real person reading the text
C. Where to click

You quote it
What do you think users asked for here?

1. Animated figure to read the text
2. Video clip or a real person reading the text
3. Where to click

You quote it

Student results
What Are the Multimodal Features Here?

- Planning for Research
- Finding Information
- Evaluating Information
- Writing and Plagiarism
- Using Information Ethically

Planning for Research
- Identify key terms in your assignment
- Think about your research strategy.
- Consider your information choices
- Select appropriate information resources

Recipient of a 2006 Vice-Chancellor’s Citation Award

Primary and secondary sources

A movie review in a newspaper is a secondary source of information.

- True
- False

Which of the following is a primary source of information?

- History textbook about World War 2
- Diary written by a soldier during World War 2
- Journal article about World War 2

The page at http://www.newcastle.edu.au says:

That is correct. A movie review is written from the reviewer's point of view of the primary source, which is the movie.

OK
Which Learning Style is not Being Accommodated?

A. Reflective
B. Sequential
C. Auditory
D. Global
Pick and Choose

“Where Do I Start?”

Do you have an assignment to write a research paper but you’re not sure where to start? Take a deep breath and begin by carefully reading the assignment requirements. This will help you understand the work you need to do.

First, let’s think about what we mean when we say “research.”
Assessing Steps to Take

Finding Articles

Do you know the name of the publication (journal, magazine, or newspaper) where the article appears?

Yes

No
There is a risk of bleeding both during and after the procedure. In very rare cases, this may require surgery or other treatments.

Would you like more information about this risk or shall I go on?
Your Turn to Design a Page: What one extra thing **COULD you add** to your learning object?

A. Short video clips
B. Short audio clips
C. Images
D. Scenario
E. Drag and Drop

0% 0% 0% 0% 0%
In your groups take 10 minutes to revise the learning object you have been given to provide for multiple options and accommodations of more learning preferences.
Your Turn to Design a Page:
Results

- Reflection
- Discussion
- Sharing
Recommended Features

- **Pop-ups** to highlight important information
- **Sections** (chapter markings)
- **Questions** to engage the mind
- **Interactivity**, have students do something
- Prefer the static web page to a video tutorial- more efficient—**include other multimedia** as options within the web page.
Results - Student Usability Study

Multiple Modalities

• All but one had high rankings for **multiple modalities**.
• All but one preferred the **step-by-step** process.
• Students wanted to **skim** the whole thing first then find the key items.
What Students Want

Text: **Bold**, **Highlight**, Bullets, **Arrows**

Images: Large, high resolution

Clearly defined sections

Additional information available if needed

Keep information inside the images
Universal Design and Diversity
Does one size fit all?
Brain Imaging Showing Individual Differences

CAST: Teaching Every Student
© 2002-2009
UDL Framework
Making the Connection
UDL principles for Effective Instruction

- Recognition: Librarians can offer various ways to REPRESENT (show) essential concepts in support of recognition learning networks.

- Strategic: Librarians can offer students various formats for EXPRESSION (demonstration) of what they have learned through strategic learning network.

- Affective: Librarians can offer various ways to encourage student ENGAGEMENT (participate) in support of affective learning networks.

http://lessonbuilder-east.cast.org/learn.html
UDL Framework

Brain-based research indicates three distinct yet inter-related learning networks/principles (Rose, Meyer, Hitchcock, 2005):

1. **Recognition Learning Network** (*what*)
   - *How we make sense of presented information*
   - *To support recognition learning, provide flexible methods of presentation*

2. **Strategic Learning Network** (*how*)
   - *How we demonstrate our learning or mastery*
   - To support strategic learning, provide multiple, flexible methods of expression and apprenticeship.

3. **Affective Learning Network** (*why*)
   - *How motivation & participation impacts learning*
   - To support affective learning, provide multiple, flexible options for engagement.
Recognition Learning Network (what)
How we make sense of presented information

UDL and the Learning Brain
Recognition Learning Network (what)
How we make sense of presented information
Brain-based research indicates three distinct yet inter-related learning networks/principles (Rose, Meyer, Hitchcock, 2005):

1. **Recognition Learning Network** *(what)*
   - How we make sense of presented information
   - To support recognition learning, provide flexible methods of presentation

2. **Strategic Learning Network** *(how)*
   - How we demonstrate our learning or mastery
   - To support strategic learning, provide multiple, flexible methods of expression and apprenticeship.

3. **Affective Learning Network** *(why)*
   - How motivation & participation impacts learning
   - To support affective learning, provide multiple, flexible options for engagement.
Strategic Learning Network *(how)*
How we demonstrate our learning or mastery

UDL and the Learning Brain
Strategic Learning Network \textit{(how)}

How we demonstrate our learning or mastery
Brain-based research indicates three distinct yet inter-related learning networks/principles (Rose, Meyer, Hitchcock, 2005):

1. **Recognition Learning Network** (*what*)
   - *How we make sense of presented information*
   - *To support recognition learning, provide* flexible methods of presentation

2. **Strategic Learning Network** (*how*)
   - *How we demonstrate our learning or mastery*
   - To support strategic learning, provide multiple, flexible methods of expression and apprenticeship.

3. **Affective Learning Network** (*why*)
   - *How motivation & participation impacts learning*
   - To support affective learning, provide multiple, flexible options for engagement.
Affective Learning Network *(why)*
*How motivation & participation impacts learning*
Brain-based research indicates three distinct yet inter-related learning networks/principles (Rose, Meyer, Hitchcock, 2005):

1. **Recognition Learning Network** (*what*)
   - *How we make sense of presented information*
   - *To support recognition learning, provide* flexible methods of presentation

2. **Strategic Learning Network** (*how*)
   - *How we demonstrate our learning or mastery*
   - To support strategic learning, provide multiple, flexible methods of expression and apprenticeship.

3. **Affective Learning Network** (*why*)
   - *How motivation & participation impacts learning*
   - To support affective learning, provide multiple, flexible options for engagement.
Flexible Instructional Media

- Piktochart
- TechSmith Jing
- SlideShare
- Wink
- DebugMode
- Audacity
- Snagit: screen capture software
- PowToon
- Animoto
- Adobe Premiere Pro CS4
- Camtasia Studio: screen recorder software
UDL principles for Effective Instruction
Qualities of Speech

- Recognition: REPRESENT (show)
- Strategic: EXPRESSION (demonstration)
- Affective: ENGAGEMENT (participate)

- Natural speech (smile, happy)
- Vary intonation, pace, volume and pitch
- Make speech interactive
- Keep it brief
- Use repetition, rhythm and emphasis
- Affective domain: appeal to their interests, fears, hopes, and sense of humor (paper due)
UDL principles for Effective Instruction
Visual Qualities

- Recognition: REPRESENT (show)
- Strategic: EXPRESSION (demonstration)
- Affective: ENGAGEMENT (participate)

Images-
- communicates all at once (global)
- captures entirety of a view (conveys emotion, and feeling)
- portrays mood, captures relationships
- makes comparisons (infographics), parts vs. whole
- can choose order of inspection

Text limitations: lacks expressiveness, has conventions, format, challenges for reading- Is linear and sequential
UDL Principles for Effective Instruction

Benefits of Flexible Media

- Ability to reach all students with multiple medium

- No need to make multiple presentations. Can incorporate chunks and learning objects for users to Pick and Choose

- Digital media are versatile, transformable, can be tagged and networked
Principles of UDL

- Provide multiple, flexible methods of presentation
- Provide multiple, flexible methods of expression and apprenticeship
- Provide multiple, flexible options for engagement
Supporting Recognition Learning

Provide alternative formats for presenting information

- Provide multiple examples
- Highlight critical features
- Provide multiple media and formats
- Support background context
Recognition: Many User Options

If you have further questions, be sure and Ask A Librarian!

Get Started | Find Sources | Evaluate Sources | Cite Sources | Class Pages

Get Started

• Choose Your Topic
• Develop a Topic / Create a Concept Map
• Understand the Information Cycle
• Use the Assignment Calculator
• Create a Library Account Video tutorial
• Renew Books and Movies

Multiple examples
Highlight critical features
Provide multiple media and formats
Support background context

Print Handout

Why Create a VuFind Account?
Creating a VuFind account is necessary to request books through I-Share. You can also use your VuFind login to request books from the University of Illinois catalog and I-Share, save materials to your Favorites to come back to later, view and renew the items you’ve added to your cart, and view fines.

Creating a VuFind Account

1. Access the Library Gateway: https://library.illinois.edu/
2. Select Library Catalog (in the center column - under Library Catalogs)
3. Select 1-Share Login on the right-hand side of the page
4. Select Create a New Account and complete the following form:

User Account

Basic Information:
First Name:
Last Name:
Email Address:

User Name:
Username:
Password:
Password Again:

Library Catalog Profile

In order to request items through I-Share you must profile your VuFind user account with your library account information.

Borrower ID (Barcode Number):

Last Name on Library Account:

Library Catalog with Which You Are Affiliated:

University of Illinois Urbana-Champaign

Instructions for ILLNET Libraries

static form instructions
Many User Options

As Child Obesity Surges, One Town Finds Way to Slim.

Authors: Parker-Pope, Tara
Source: Wall Street Journal - Eastern
Document Type: Article
Subject Terms: "OBESITY in children -- Prevention
COMMUNITY Involvement"
Geographic Terms: SOMERVILLE (Mass.) MASSACHUSETTS
People: ECONOMOS, Christina CURTATONE, Joseph
Abstract: The article reports on a successful community wide childhood obesity prevention program in Somerville, Massachusetts which was designed by Dr. Christina Economos of the Tufts Friedman School of Nutrition and the city's Mayor Joseph Curtatone. The program included having the town's restaurants switch to low fat milk and smaller portion sizes, painting the town's crosswalks to encourage people to walk to work and school and an increase in the amount of fruit found in school lunches.

Using a Concept Map

And now alternative keywords! Not everyone uses the same language to write about a topic.

Powtoon Can switch to html5
Include script, before and after maps
Supporting Strategic Learning

Provide alternative means for action and expression

– Provide flexible models of skilled performance
– Provide opportunities to practice with supports
– Provide ongoing, relevant feedback
– Offer flexible opportunities for demonstrating skill
Options for Novice and Expert from the University of Arizona
http://www.library.arizona.edu/tutorials/how_to_search_effectively/
Options for Novices and Experts

Example of Branching from University of Arizona University Libraries
http://www.library.arizona.edu/help/tutorials/index.html
Opportunities to Practice with Support

Eastern Washington University. (http://support.library.ewu.edu/reference/tutorial/flash/citation.html)

University of Newcastle
Opportunities to Practice with Support

Ability to Type In Phrase From The University of Texas Libraries http://lib.utexas.edu/keywords/
Practice Options
Supporting Affective Learning

Provide alternative means for engagement

- Offer choices of content and tools
- Offer adjustable levels of challenge
- Offer choices of rewards
- Offer choices of learning context
Using Respondus or Study Mate software (compatible with blackboard) on webpages

Include correct information in responses, for all choices
## What types of sources can I use?

<table>
<thead>
<tr>
<th></th>
<th>Print</th>
<th>Online</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>+</td>
<td>+</td>
<td>Extensive coverage of one topic or theme.</td>
</tr>
<tr>
<td>Journals</td>
<td>+</td>
<td>+</td>
<td>Articles that report research.</td>
</tr>
<tr>
<td>Magazines</td>
<td>+</td>
<td>+</td>
<td>Articles that report news or trends.</td>
</tr>
<tr>
<td>Newspapers</td>
<td>+</td>
<td>+</td>
<td>Current events and news.</td>
</tr>
<tr>
<td>Websites</td>
<td>+</td>
<td>+</td>
<td>Personal, Corporate, Informational</td>
</tr>
<tr>
<td>Blogs</td>
<td>+</td>
<td>+</td>
<td>Online journals: personal, corporate, informational.</td>
</tr>
<tr>
<td>PodCasts</td>
<td>+</td>
<td>+</td>
<td>Personal, corporate, informational.</td>
</tr>
<tr>
<td>Video</td>
<td>+</td>
<td>+</td>
<td>Entertainment, news, instructional.</td>
</tr>
</tbody>
</table>

---

**Explore -- View these three videos**

**Scholarly**

- Author Experience
- Scholarly Papers
- Audience
- Bibliography
- Bias

- What type of research does the author report? or research? or analysis? or study?
- Does the author present a hypothesis? What is the author's purpose? Does the author support the hypothesis? Is the author's argument clear? Is the author's conclusion clear?
- Does the author support the hypothesis? Is the author's argument clear? Is the author's conclusion clear?
- Scholarly writing is balanced, not provided, it may be persuasive, but it will always be reported by sources from the bibliography.

---

Comments (0)
Narrowing a Topic Scenario from Research Basics, University of Arizona
http://www.library.arizona.edu/tutorials/research_basics/
Welcome from the Library and Information Science Librarian

If you're researching a topic in library and information science, you've come to the right place.
Low Tech Ways to Provide Other Options/Scaffolding

HOT TIP!
Not every database has current information.
Click Here to Learn More

Choices for This Tutorial
- Sound: Click this button if you want to listen to instructions.
- Silent: Click this button if you want to read instructions.
The UDL Approach

• Diversity is the norm in today’s classrooms

• Applying the UDL principles in education is enabled by:
  – Appropriate goals
  – Flexible and supportive digital materials
  – Flexible and diverse methods, and
  – Accessible and flexible assessments
Lunch
Think – Pair - Share

• Take a moment and recall an activity you offered in one of your classes where you noted that several students struggled.
  – Was it in the **Representation** (showing), in the **Engagement** (participation), or in the **Expression** (demonstration)? Identify one “teaching” and one “student” variable that may have impacted student success? Which area do you think

• Share your thoughts with a person sitting next to you.
Suggestions for ways to provide multiple means of representation

**To support diverse recognition networks:**
- Provide multiple examples
- Highlight critical features
- Provide multiple media and formats
- Support background context.

**To support diverse strategic networks:**
- Provide flexible models of skilled performance
- Provide opportunities to practice with supports
- Provide ongoing, relevant feedback
- Offer flexible opportunities for demonstrating skill.

**To support diverse affective networks:**
- Offer choices of content and tools
- Offer adjustable levels of challenge
- Offer choices of rewards
- Offer choices of learning context.
REPRESENT (show) essential concepts in support of recognition learning networks

Fundamentals in Practice:
Knowing that students access information in a variety of formats (including auditory, visual and tactile), consider varying how you express essential course content. This increases the likelihood of information access and comprehension and, ultimately, the effectiveness of your instruction.

Graphic Organizers, visuals, Venn diagrams, flowcharts, concept/spider/story maps, hierarchies, etc.)

Learn by viewing, Learn by doing, Scaffolding
Graphic Organizers - Clickable Regions - Global Learner

Where to Find a Topic
Reliable places to find interesting topics

News Sources
- National Public Radio (NPR)
  National Public Radio provides readers and listeners with up-to-date, well-researched information about important news. Be sure to click on TOPICS in the upper left to explore the site. www.npr.org

- BBC
  The BBC publishes news from around the world and includes both pop-culture and more serious topics. Use the navigation bar along the top of the page to explore more. www.bbc.com

- CityLab
  CityLab, a part of the well-respected magazine The Atlantic Monthly, publishes interesting and lively conversation pieces about city living, the future of cities, and more. www.citylab.com

Professional Sources
- Trade Publications
  Trade publications are magazines that provide information on current trends, news, and research in a specific field or industry. They contain articles written by experts in that field.

Databases & Background Info
- The sources below can provide ideas for finding a topic:
  - CQ Researcher
    Select from the Hot Topics in the right column, or click on Browse Topics at the top of the page. Find hundreds of articles on new, dynamic, and controversial topics.
  - Pop Culture Universe
    A database full of information on the top pop culture topics in history. Click on Idea Exchange to see some of the more controversial and thought-through topics, or Describes to see all the topics discussed.

Credo Reference
- Click on Find Topic Page along the top of the page, and use the subject list on the left-side to browse the very long list of interesting topics, complete with encyclopedia entries!

- Where to find trade publications
  To find trade publications, search for your topic in Academic Search Premier. Then, select Trade Publications from the Refine Results options on the left column.

- What if I don’t have a topic yet?
  The best place to find lists of trade publications is Wikipedia. They are listed by category here: http://www.wiki.org
Engagement (participate) in support of affective learning networks

Fundamentals in Practice:

Knowing that active participation is key to learning, consider adopting various ways that students can actively participate in class. Active participation strengthens learning and, ultimately, the effectiveness of your instruction.
Engagement (participate) in support of affective learning networks

- With a colleague sitting next to you, discuss something that you could incorporate into a learning object to allow students to participate or to engage in the content

  - 2 minutes to discuss:
    - One potential benefit of this technique
    - One potential drawback of this technique

- Be prepared to share your reflections if called upon
Expression (demonstration) of what they have learned through strategic learning networks

**Fundamentals in Practice:**

Knowing that students have preferences for how they express themselves (orally, written, and visually), consider providing multiple ways for students to demonstrate their competency. This increases the likelihood of their success and, ultimately, the effectiveness of how you measure their learning.

**Quizzes, polls, exercises, task**
Benefits of UDL Practices

• What are they?
Benefits of UDL Practices

• Enables you to *reach a diverse student population* without necessarily modifying your course requirements or academic expectations.

• Provides you the tools to *consider what and how you teach* in a structured and systematic manner.

• Increases student participation, achievement, and satisfaction.
Pack Your Toolbox - Design

- Define your goals and needed resources
- Make a Plan – storyboard and scripting
- Be consistent in appearance and navigation
- Include multiple ways to access and choose the information
- Integrate assessment, pop up exercises
- Test it out
UDL Resources – Pack Your Toolbox

• What resources are already available to you?

  – Libguides
  – Guide on the side
  – Powtoon
    [https://www.youtube.com/watch?feature=player_embedded&v=zPZAy4eVYcw#t=0](https://www.youtube.com/watch?feature=player_embedded&v=zPZAy4eVYcw#t=0)
  – Captivate, jing, Screenr
    [http://guides.library.utoronto.ca/content.php?pid=420267&sid=3435772](http://guides.library.utoronto.ca/content.php?pid=420267&sid=3435772)
What other resources do you need?

- New software (cost, training, support)
- People to assist (library staff, students, faculty, IT?)
- Money for usability?
Design– Pack Your Toolbox

Multimedia Storyboard

Story-Board Example from Usability Net:
http://www.mcli.dist.maricopa.edu/authoring/studio/guidebook/images/storyboard3.gif
Design – Pack Your Toolbox

Glossary: Psyching Yourself for the Job

M1L2S4 (module 1, lesson 2, screen 6)

How do you feel about giving your cat medicine?

- I am looking forward to placing a pill down my cat’s throat.
- I’d rather have a root canal.
- I plan to hire a cat consultant to do it three times a day.
- My cat has very long claws. How do you think I feel?

Narration:
Prior to attempting to administer a pill to a cat, it is important to achieve the correct frame of mind. In order to do this, you must face your true feelings about the experience. Select all the items that express your feelings.

If user clicks 1, go to screen 5.
If user clicks 2 or 4, go to screen 6.
If user clicks 3, go to screen 7.

Notes:
Female narrator projecting a soothing voice.

Story-board with Branching from
http://theelarningcoach.com/downloadsVisual+Storyboard+1
Pack Your Toolbox - Design

Consistency in Appearance and Navigation

Opening and Closing Screens

Consistency in color, font, highlighting, cues
Many User Options

Animations, graphic organizers, video add ins

• Learning Objects and Voki

• Thinglink (rollovers):
  http://uiuc.libguides.com/content.php?pid=606090&sid=5002460 and
  http://uiuc.libguides.com/content.php?pid=606090&sid=5102042

• Infographic Graphic organizers (clickable regions)
  • http://uiuc.libguides.com/content.php?pid=606090&sid=5002465 and
  • http://uiuc.libguides.com/content.php?pid=606090&sid=5149615 and
  • http://uiuc.libguides.com/content.php?pid=606090&sid=5139166

• Concept maps using Powtoon (includes the scripts):
  http://uiuc.libguides.com/content.php?pid=606090&sid=5002466 and
  http://www.library.illinois.edu/ugl/howdoi/concept_map.pdf and ESL option
Learning Object Assessment

Usability Testing Design

- Usability Team
- Test Prototype
- Usability with Individuals
- Focus Groups
- Redesign
- Test Again
- Redesign
How is Success Measured?

- Checkpoints
- Statistical tracking
- Log File Analysis
- Web page analytics
- Tracking new accounts
- Evaluation of student work/faculty inclusion
- Pre- and post-tests
- Student debriefing
- Surveys
Make a Plan and Use Your Tools

• Create a plan to enhance an existing learning object (to provide for multiple means of representation) - including ways to support:
  – Diverse recognition networks
  – Diverse strategic networks
  – Diverse affective networks

• Create a plan for a new learning object
Strut your Stuff

- Discuss Ideas, new plan
- Share other tutorials or learning objects that inspired you
A. It’s important to incorporate multiple options in tutorials

B. Video screencast tutorials aren’t effective for all students

C. I actually can do some of this

D. Perhaps librarians should assess their tools with students
Mismatch – Students Want

Variety of tools that engage
Yet 63% of librarian survey respondents did not provide tools for multiple modalities

Multiple paths to information
Yet 72% of respondents did not provide for multiple paths

Interactive opportunities
Yet 52% did not provide these and only 6% provided them in every tutorial
Ways UIUC has changed Learning Objects

- **More mash-ups** that incorporate images, sound, and text into one learning object.
- **Cease talking when a pop-up** appears to allow time to read and reflect on the message.
- An **opening scenario or “choose a character”** to help them relate to the experience.
- **More Interactivity:** Options for them to **“try it out”**, including **“roll overs”**, choose an answer, reflect and provide a response, brief quizzes, scaffolding.
Focus Group Highlights

- What they want:

  Conversational; informal; self pacing; get more if you want more; audio; simpler, straight to the point; hands-on; broken-up into “chunks”; neutral color scheme; enthusiasm; options for visual or non-visual, audio or non-audio; larger screen; different formats and presentations
Wrap Up/Evaluations

• What questions do you still have?

• Do you have a plan of action for moving beyond passive instruction?
One style does not fit all

Unless you create it that way
Lori Mestre
lmestre@illinois.edu
Resources Used in Presentation

Learning Styles

- Index of Learning Style Inventory
  - [http://www.engr.ncsu.edu/learningstyles/ilsweb.html](http://www.engr.ncsu.edu/learningstyles/ilsweb.html) (NC State)
- Vark Questionnaire (How do I Learn Best)
- Keys to Effective Learning [http://blog.iqmatrix.com/mind‐map/accelerated‐learning‐mind‐map](http://blog.iqmatrix.com/mind‐map/accelerated‐learning‐mind‐map)
- Acadia Institute for Teaching and Technology. Learning Styles [http://learningcommons.acadiau.ca/resources/workshops/learningstyles.ppt](http://learningcommons.acadiau.ca/resources/workshops/learningstyles.ppt)
Resources

- For lots of resources for creating or finding learning objects see: [http://uiuc.libguides.com/learningobjects](http://uiuc.libguides.com/learningobjects)
- Big Huge Labs: [http://bighugelabs.com/](http://bighugelabs.com/)
- Make a Prezi and record in Camtasia/Captivate [http://prezi.com](http://prezi.com)
- Mashup images from flickr, mosaic maker, poster maker- make a jigsaw puzzle
- Pipes – drag & drop modules for building mashups (try Library 2.0 ) [www://pipes.yahoo.com](http://pipes.yahoo.com)
- Primo sites: [http://www.lycoming.edu/library/instruction/tutorials/plagiarismGame.html](http://www.lycoming.edu/library/instruction/tutorials/plagiarismGame.html)
- UNC example of “show me” button that links to a tutorial [http://www.lib.unc.edu/instruct/tutorial/articles/articles.html](http://www.lib.unc.edu/instruct/tutorial/articles/articles.html)
Suggestions for ways to provide multiple means of representation

- http://www.cast.org/udl/
  - http://www.udlcenter.org/aboutudl/udlguidelines/principle1
  - http://www.udlcenter.org/aboutudl/udlguidelines/principle2
  - http://www.udlcenter.org/aboutudl/udlguidelines/principle3