UNIVERSAL DESIGN FOR LEARNING IN INCLUSIVE CLASSROOMS

Jennifer J. Lesh, Ph.D.
LYNN UNIVERSITY
Ross College of Education
Boca Raton, Florida
PRESENTATION GOALS

• Introduce the principles of UDL
• Provide examples, resources and take-away strategies on UDL that have been successfully applied at the postsecondary level to:
  • Increased teaching effectiveness
  • Improved student outcomes
  • Meet the needs of diverse learners
• Examine how UDL can be successfully implemented in your own classrooms
UNIVERSAL DESIGN
IS OUR PHYSICAL ENVIRONMENT WELCOMING?

• Architectural term coined by R. Mace
• Physical environment design for access
• Stairs as access feature/barrier
  • Physical Disabilities
  • Elderly
  • Children
  • Strollers/Carts
• Retrofitting for physical access remains a design afterthought
UNIVERSAL DESIGN SOLUTIONS

• Intentional approach to design
• Anticipates a variety of needs
• Broadens usability to public
• More economical
• Respects human diversity

What kind of Universal Design solutions are located on your campus?
UNIVERSAL DESIGN FOR LEARNING
IS YOUR PEDAGOGICAL ENVIRONMENT WELCOMING?

UDL is the proactive design of our courses to ensure they are educationally accessible regardless of learning style, physical or sensory abilities.

Just as physical barriers exist in our physical environment, curricular barriers exist in our instructional environment.
### UDL ANALOGY FOR EDUCATION

<table>
<thead>
<tr>
<th>UD</th>
<th>UDL</th>
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<tbody>
<tr>
<td><strong>Physical Environment</strong></td>
<td><strong>Instructional Environment</strong></td>
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<tr>
<td>Physical barriers may exist in our</td>
<td>Learning barriers may exist in our</td>
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<tr>
<td>architectural environment</td>
<td>curricular environment</td>
</tr>
<tr>
<td>Physical retrofitting can be costly and</td>
<td>Proactive design of curriculum and</td>
</tr>
<tr>
<td>is often inelegant</td>
<td>instruction</td>
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<tr>
<td>Physical retrofitting can be costly and</td>
<td>Instructional accommodations can be</td>
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<tr>
<td>is often inelegant</td>
<td>time consuming and difficult to</td>
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<td></td>
<td>implement</td>
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EDUCATIONALLY, DOES ONE SIZE FIT ALL?

FOR A FAIR SELECTION EVERYBODY HAS TO TAKE THE SAME EXAM: PLEASE CLIMB THAT TREE.
Brain-based research indicates three distinct yet inter-related learning networks (Rose, Meyer, Hitchcock, 2005):

1. **Recognition Learning Network** *(what)*
   - *How we make sense of presented information*

2. **Affective Learning Network** *(why)*
   - *How motivation & participation impacts learning*

3. **Strategic Learning Network** *(how)*
   - *How we demonstrate our learning or mastery*
These three functional magnetic resonance images (fMRI) show brain activity patterns of three different people performing the same simple, finger tapping task. The level of brain activity during performance of this task is designated using color. Blue indicates a low to moderate level of activity, red indicates a high level of activity, and yellow indicates an extremely high level of activity.
MAKING THE CONNECTION
UDL PRINCIPLES FOR EFFECTIVE INSTRUCTION

- Faculty can offer various ways to **REPRESENT** (show) essential course concepts in support of recognition learning networks.

- Faculty can offer various ways to encourage student **ENGAGEMENT** (participate) in support of affective learning networks.

- Faculty can offer students various formats for **EXPRESSION** (demonstration) of what they have learned through strategic learning networks.
• Take a moment and recall an activity you offered in one of your classes where you noted that several students struggled.

• Identify one “teaching” and one “student” variable that may have impacted student success?

• Share your thoughts with a person sitting next to you.
WHAT IS REPRESENTATION?

“How do I present essential course content to my students?”

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.
REPRESENTATION TAKEAWAY

STRATEGY:

GRAPHIC ORGANIZERS (GO)

• **What:** Visual or graphic display depicting course content.

• **Why:** Positive effects on higher order knowledge but not on facts (Robinson & Kiewra, 1995); Quiz scores higher using partially complete GO (Robinson et al., 2006).

• **How:** Advanced organizers, Venn diagrams, concept/spider/story maps, flowcharts, hierarchies, etc.

Ways:
1. Provide completed GO to students (Learn by viewing)
2. Students construct their own GO (Learn by doing)
3. Students finalize partially complete GO (scaffolding)
SAMPLE GRAPHIC ORGANIZERS

Flowchart:
- Start
- Do I want to do this?
  - NO: Don't Do It
  - YES: Will it likely end in disaster?
    - NO: Will it make a good story anyway?
      - NO: Don't Do It
      - YES: Do It
    - YES: Do It

Diagram:
- EVOLUTIONARY PROCESSES
  - SELECTION: directional, diversifying, normalizing
  - MUTATION: chromosomal
  - FLOW: between populations
  - DRIFT: random within small populations

Comparative and Contrastive Map:
- Concept 1: Diff. Feature
- Concept 2: Diff. Feature
  - Dimension 1: Sim. Feature
ULD Guidelines in 1st grade math class
WHAT IS ENGAGEMENT?

“How do I involve my students in the learning process?”

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.
ACCORDING TO RESEARCH HOW LONG CAN STUDENTS CONCENTRATE WITHOUT MOVEMENT OR ENGAGEMENT?

Concentration Time

Quiz
Space Race
Exit Ticket

Quick Question
Multiple Choice
True / False
Short Answer
According to research how long can a 10 year old concentrate and stay engaged with instruction *without* the teacher providing opportunity for discussion or movement?

- **A** – 5 -10 Minutes
- **B** - 7 -13 Minutes
- **C** – 15 -20 Minutes
- **D** - 20 -25 Minutes
ANSWER

• B 7 – 13 minutes
TAKEAWAY ENGAGEMENT STRATEGY: 
THE PAUSE PROCEDURE (PP)

• **What:** Short (4-minute) periodic breaks to review notes and/or discuss course content.

• **Why:** Increases accuracy of notes (Ruhl & Suritsky, 1995); higher exam scores and less need for sustained attention (Braun & Simpson, 2004).

• **How:** Pause at natural breaks (15 minutes). Provide clear instructions, signal beginning and ending of PP and include time for unresolved questions.

• **Ways:**
  - Independent review of notes
  - Short writing assignment (Quick write)
  - Group (Think-Pair-Share) discussion of notes or material
SAMPLE PAUSE PROCEDURE

• With a colleague sitting next to you, discuss how the Pause Procedure *has or could* work in your classroom
• Allow each person 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
Collaborative Learning Builds Deeper Thinking
“How do I ask my students to show what they know?”

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.
TAKEAWAY UDL STRATEGY: COURSE RUBRICS

• **What:** Scoring tool that explicitly represents the performance expectations for an assignment. Divides the assignment into component parts and provides clear descriptions of each component, at varying levels of mastery.

• **Why:** Enhanced achievement and student satisfaction (Roblyer & Wiencke, 2003); Reliable formative and summative assessment tool (Montgomery, 2002).

• **How:** Consider major elements embedded in any given assignment. Define components and evaluation parameters.

• **Ways:**
  - Individual paper, project, or participation grading rubrics
  - Alternative pathway rubrics
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sophisticated</th>
<th>Competent</th>
<th>Needs Work</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Position and exceptions, if any, are clearly stated. Organization of the argument is completely and clearly outlined and implemented. 4-5 pts</td>
<td>Position is clearly stated. Organization of argument is clear in parts or only partially described and mostly implemented. 2-3 pts</td>
<td>Position is vague. Organization of argument is missing, vague, or not consistently maintained. 0-1 pts</td>
</tr>
<tr>
<td>Research</td>
<td>Research selected is highly relevant to the argument, is presented accurately and completely – the method, results, and implications are all presented accurately; Theory is relevant, accurately described and all relevant components are included; relationship between research and theory is clearly articulated and accurate. 8–10 pts</td>
<td>Research is relevant to the argument and is mostly accurate and complete – there are some unclear components or some minor errors in the method, results or implications. Theory is relevant and accurately described, some components may not be present or are unclear. Connection to theory is mostly clear and complete, or has some minor errors. 5 – 7 pts</td>
<td>Research selected is not relevant to the argument or is vague and incomplete – components are missing or inaccurate or unclear. Theory is not relevant or only relevant for some aspects; theory is not clearly articulated and/or has incorrect or incomplete components. Relationship between theory and research is unclear or inaccurate, major errors in the logic are present. 0 – 4 pts</td>
</tr>
<tr>
<td>Conclusions</td>
<td>Conclusion is clearly stated and connections to the research and position are clear and relevant. The underlying logic is explicit. 4-5 pts</td>
<td>Conclusion is clearly stated and connections to research and position are mostly clear, some aspects may not be connected or minor errors in logic are present. 2-3 pts</td>
<td>Conclusion may not be clear and the connections to the research are incorrect or unclear or just a repetition of the findings without explanation. Underlying logic has major flaws; connection to position is not clear.</td>
</tr>
<tr>
<td>Writing</td>
<td>Paper is coherently organized and the logic is easy to follow. There are no spelling or grammatical errors and terminology is clearly defined. Writing is clear and concise and persuasive. 4-5 pts</td>
<td>Paper is generally well organized and most of the argument is easy to follow. There are only a few minor spelling or grammatical errors, or terms are not clearly defined. Writing is mostly clear but may lack conciseness. 2-3 pts</td>
<td>Paper is poorly organized and difficult to read – does not flow logically from one part to another. There are several spelling and/or grammatical errors; technical terms may not be defined or are poorly defined. Writing lacks clarity and conciseness. 0-1 pts</td>
</tr>
</tbody>
</table>
**RUBRIC RESOURCES**

* WikiPODia: http://goo.gl/lHNnX
* Free online Authentic Assessment Toolbox, http://goo.gl/8xIL
* Good overview and examples across grade levels: http://edtech.kennesaw.edu/intech/rubrics.htm
* Rubistar:  http://rubistar.4teachers.org/index.php
* Rubric for Online Discussion:  http://goo.gl/FJcj4
ENGAGING IN REFLECTIVE TEACHING THROUGH UDL

Select a Course
What Threshold Concepts?

Evaluate Outcomes
Did it work?

Reflect on UDL
What you teach
How you teach
What requires attention first?

Implement Changes & Assess Outcomes
UDL Syllabus Rubric

CAST Guidelines
9 Common Elements
QOLT for online/hybrid
Faculty Learning Community

udluniverse.com
CAROUSEL ACTIVITY
UDL IS NOT...

- Specialized privileges for a few students
  - It is not about special accommodations
- Watering down your academic expectations
  - It is not about making courses easier – school is supposed to be challenging if learning occurs
- A “magic bullet” or “fix” for all students
  - It is not going to solve all your curricular or pedagogical problems
- A prescriptive formula
  - No checklist will offer the “UDL solution”
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.
RESOURCES FOR IMPLEMENTING UDL IN YOUR CLASSES

- CAST UDL Guidelines (handout)
- Nine Common Elements of UDL (handout)
- UDL Examples (handout)
- UDL Syllabus Rubric (handout)
- 3 Year Research Summary (handout)
- The Center for Applied Special Technology (CAST)
REFERENCES


CLOSING/DISCUSSION

- Next steps?
- 3-2-1 Exit Card
- Contact Information:
  - Dr. Jennifer Lesh
  - Lynn University
- Email: jlesh@lynn.edu