EFFECTIVE INSTRUCTIONAL STRATEGIES: ACHIEVING ACADEMIC SUCCESS (UDL)

LRE Training Module
Office of Special Education Programs
New Jersey Department of Education
2015-2016 School Year
Workshop Goals

- Explore Universal Design for Learning (UDL), a framework, for planning curricula and an approach to expand learning opportunities for all children;

- Introduce the basic principles of UDL;

- Discuss ways to increase student engagement in the curriculum by including students who are struggling and those with disabilities;

- Introduce apps and on-line resources to support teachers in planning and instruction incorporating the principles of UDL.
What is SWIFT?

**Schoolwide Integrated Framework for Transformation**
The SWIFT domains and features are the building blocks of effective inclusive education. Research shows it takes administrative leadership, a multi-tiered system of support, family and community partnerships, an integrated educational framework, and inclusive policies and practices to effectively meet the needs of all students, including students with disabilities and those with the most extensive needs.

Universal Design for Learning
Why UDL?

<table>
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<tr>
<th>If NJDOE</th>
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<tbody>
<tr>
<td>Provides training and technical assistance in the use of <strong>Universal Design for Learning (UDL)</strong></td>
<td>...more principals will implement an integrated framework for instruction</td>
<td>...students’ progress in and achievement of the CCCS will be accelerated</td>
<td>...an increased percentage of students with IEPs will benefit from education in general education settings for a greater percentage of their school day.</td>
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<td>...a differentiated and targeted approach will provide ALL students with that they need</td>
<td>...more students will set high expectations for themselves in response to higher standards set by teachers</td>
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<td>...teachers will be better equipped with a toolbox of varied and differentiated supports to meet students’ instructional and assessment needs</td>
<td>...teachers will be better prepared to provide appropriate instructional strategies in the least restrictive environment</td>
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Could you please shovel the ramp?

All these other kids are waiting to use the stairs. When I get through shoveling them off, then I will clear the ramp for you.

But if you shovel the ramp, we can all get in!

Clearing a path for people with special needs clears the path for everyone!
Link between Architecture and Learning?

“Consider the needs of the broadest possible range of users from the beginning”

-- Architect, Ron Mace
Universal Design for Learning is …

- A set of principles for curriculum development that gives all individuals equal opportunities to learn
- Developed by the staff at CAST (www.cast.org)
- A blueprint for creating instructional goals, methods, materials, and assessments that work for everyone—not a single, one-size-fits-all solution but rather flexible approaches that can be customized and adjusted for individual needs
UDL as a Framework

Universal Design for Learning (UDL) is…

a research-based framework for designing curricula—that is, educational goals, methods, materials, and assessments—that enable all individuals to gain knowledge, skills, and enthusiasm for learning. This is accomplished by simultaneously providing rich supports for learning and reducing barriers to the curriculum, while maintaining high achievement standards for all students.

http://cast.org/udl/faq/
UDL at a Glance

- https://www.youtube.com/watch?v=bDvKnY0g6e4
Foundational Concept: Shift in Goal of Education from Knowledge Acquisition to Learner Expertise

• The ultimate goal of applying UDL to instruction is to help all learners to develop into expert learners—learners who can assess their own learning needs, monitor their own progress, and regulate and sustain their interests, effort, and persistence during learning tasks.
Variability Matters

• Todd Rose “Variability Matters”
https://www.youtube.com/watch?v=8WClnVjCEVM
Core Beliefs Based Upon Research

• Every learner in the room today is a unique individual with variable strengths, preferences, needs, motivations, etc.

• There are predictable patterns of variability in this (and every other) group of learners

• Planning up front for the predictable variability of a group of learners allows educators to optimize the curriculum for everyone
Learner Variability

• Many curricula are based on the ‘illusory’ average student – **there is no average learner**

• Learner variability is normal and systematic

• Because systematic learner variability is predictable, we can proactively plan for it

• We can more effectively address individual learner needs by planning for the range of systematic learner variability

• Universal Design for Learning (UDL) is a curriculum design framework that guides educators in planning for systematic learner variability
UDL is a paradigm shift from:

- Students who learn differently constitute a different category
- Instructional adjustments are made for at risk students
- Learning is from a single textbook
- The problem is within the student and requires remediation
- Students who learn differently fall along a continuum of learner differences
- Instructional adjustments made for all learners from the beginning
- Learning materials are varied based on student needs, interests, and abilities
- The solution is within the curriculum - A flexible curriculum adapts to the needs of all students
UDL Helps Educators in the Planning Process

Encourages flexible curricula development from the start!

- Helps all learners including those “in the margins”
  - Students who are gifted
  - Students who are at risk
  - Students who are English language learners
  - Students who have disabilities

- Instruction to meet all learners
  - Flexible goals
  - Flexible methods
  - Flexible materials
  - Flexible assessments
Foundational Concept
Universal Design for Learning

- **Neurological Basis** - Universal Design for Learning Considers Three Brain Networks
  - **Affective Networks** – how we engage with learning
  - **Recognition Networks** – how we acquire information, how it is represented
  - **Strategic Networks** – how we organize our thinking, the action and expression of learning
We can plan for the **WHY** –

**ENGAGEMENT**

How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.
Principle 1 – Engagement “Why”

• Potential Barriers of Learning
  • Lack of consideration regarding students’:
    • culture, background knowledge, and interests
    • preferences for spontaneity and routine
    • preferences for social and collaborative engagement
    • drive and motivation
    • opportunities for self-monitoring

• There is no one means of engagement that will be optimal for all learners in all contexts
The Monkey Business Illusion

www.youtube.com/watch?v=IGQmdoK_ZfY
We can plan for the **WHAT** –

**REPRESENTATION**

How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.
Principle 2- Representation “What”

- Potential Barriers to Learning
  - Not providing for perception and comprehension variability
  - Limited ways of approaching content
  - Not providing opportunities for students to make connections in a variety of ways
  - Limiting cultural perspective and not considering language differences
  - Not considering sensory needs and/or differences

- There is not one means of representation that is best for all learners
This optical illusion, the **Cafe Wall Illusion**, was first discovered by Dr Richard Gregory who observed an anomaly in the way that the tiles of a wall in his local cafe in Bristol displayed. The horizontal lines appear to be bent, although they in fact parallel straight horizontal lines. The effect only works if the tiles have a border (in this case grey).
Look closely, the orange circles are the same size...

An illusion that plays on our perception of relative size. The first central circle appears smaller than the circle on the right yet they are identical in size. This is the *Ebbinghaus Illusion*.
Known as *White's Illusion*, is a counterintuitive illusion. When a grey rectangle is mainly surrounded by black it should look lighter. In this case, the grey rectangles are exactly the same shade of grey.
In this image, the two shapes are in fact identical in size. The Jastrow Illusion was discovered by Joseph Jastrow, the American psychologist, in 1889.
We can plan for the **HOW** -

** ACTIONS and EXPRESSION**

Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.
Principle 3 – Action and Expression “How”

• Potential Barriers to Learning
  • Lack of consideration of students’:
    • ways in which they navigate their learning environments
    • approaches to organization and strategic abilities (executive functions)
    • ability/preference to express themselves through different modalities

• There is not one means of action and expression that will be optimal for all learners
What is Learner Variability?

Working in groups, answer this question with your choice:

- Create a video - http://www.powtoon.com/
- Draw a picture or comic strip
- Write a paragraph, deliver a speech
- Other……………. 
Universal Design for Learning

Affective networks: The **WHY** of learning

- How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.

- Stimulate interest and motivation for learning

Recognition networks: The **WHAT** of learning

- How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author’s style are recognition tasks.

- Present information and content in different ways

Strategic networks: The **HOW** of learning

- Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.

- Differentiate the ways that students can express what they know
Apps and Web Tools
Universal Design for Learning Guidelines

Provide Multiple Means of Engagement
Purposeful, motivated learners

Provide options for self-regulation
+ Promote expectations and beliefs that optimize motivation
+ Facilitate personal coping skills and strategies
+ Develop self-assessment and reflection

Provide options for sustaining effort and persistence
+ Heighten salience of goals and objectives
+ Vary demands and resources to optimize challenge
+ Foster collaboration and community
+ Increase mastery-oriented feedback

Provide options for recruiting interest
+ Optimize individual choice and autonomy
+ Optimize relevance, value, and authenticity
+ Minimize threats and distractions

Provide Multiple Means of Representation
Resourceful, knowledgeable learners

Provide options for comprehension
+ Activate or supply background knowledge
+ Highlight patterns, critical features, big ideas, and relationships
+ Guide information processing, visualization, and manipulation
+ Maximize transfer and generalization

Provide options for language, mathematical expressions, and symbols
+ Clarify vocabulary and symbols
+ Clarify syntax and structure
+ Support decoding of text, mathematical notation, and symbols
+ Promote understanding across languages
+ Illustrate through multiple media

Provide options for physical action
+ Vary the methods for response and navigation
+ Optimize access to tools and assistive technologies

Provide Multiple Means of Action & Expression
Strategic, goal-directed learners

Provide options for executive functions
+ Guide appropriate goal-setting
+ Support planning and strategy development
+ Enhance capacity for monitoring progress

Provide options for expression and communication
+ Use multiple media for communication
+ Use multiple tools for construction and composition
+ Build fluencies with graduated levels of support for practice and performance

FIG. 5.1. The UDL Guidelines ©2013 CAST, INC
## UDL Guidelines 2.0 - Organizer with links to examples

<table>
<thead>
<tr>
<th>Provide access</th>
<th>Provide guided practice and support</th>
<th>Provide independent practice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perception</strong> — same information different ways; format allows for users to adjust</td>
<td><strong>Physical Action</strong> — same goals, different motor, strategic and organizational options</td>
<td><strong>Recruiting Interest</strong> — same goal, different ways to engage student interest</td>
</tr>
<tr>
<td><em>Offer ways of customizing the display of information</em></td>
<td><em>Vary the methods for response and navigation</em></td>
<td><em>Optimize individual, choice and autonomy</em></td>
</tr>
<tr>
<td><em>Offer alternatives for auditory information</em></td>
<td><em>Optimize access to tools and assistive technologies</em></td>
<td><em>Optimize relevance, value and authenticity</em></td>
</tr>
<tr>
<td><em>Offer alternatives for visual information</em></td>
<td></td>
<td><em>Minimize threats and distractions</em></td>
</tr>
</tbody>
</table>

| Language, mathematical expressions and symbols — provide alternative representations for clarity and comprehensibility | Expression and communication — provide learners with different ways to express what they know | Sustaining effort and persistence — help learners develop sustained attention and effort |
| **Clarify vocabulary and symbols** | *Use multiple media for communication* | *Heighten salience of goals and objectives* |
| **Clarify syntax and structure** | *Use multiple tools for construction and composition* | *Vary demands and resources to optimize challenge* |
| *Support decoding text, mathematical notation and symbols* | *Build fluencies with graduated levels of support for practice and performance* | *Foster collaboration and communication* |
| *Promote understanding across languages* | | *Increase mystery-oriented feedback* |
| *Illustrate through multiple media* | | |

| Comprehension — help learners develop ways to transform information into usable knowledge | Executive Function — help learners develop deliberate strategies for Learning | Self-regulation — help learners develop intrinsic abilities to self-regulate |
| **Activate or supply background knowledge** | *Guide appropriate goal-setting* | *Promote expectations and beliefs that optimize motivation* |
| **Highlight patterns, critical features, big ideas and relationships** | *Support planning and strategy development* | *Facilitate personal coping skills and strategies* |
| *Guide information processing, visualization and manipulation* | *Facilitate managing information and resources* | *Develop self-assessment and reflection* |
| **Maximize transfer and generalization** | **Enhance capacity for monitoring progress** | |

| Resourceful, knowledgeable learners | Strategic goal-directed learners | Purposeful, motivated learners |

https://sites.google.com/site/udlguidelinesexamples/
UDL Wheel

Diversity is the norm, not the exception. In schools today, when curricula are designed only to meet the needs of a few, those with different preferences, abilities, learning styles, or backgrounds, may fall behind. 21st century teaching and learning focuses efforts on ensuring that all individuals have opportunities to learn.

Universal Design for Learning (UDL) is a research-based framework that addresses learner diversity at the beginning of the design or planning effort. Using UDL to design academic goals and curriculum has the potential to dramatically change how we teach, how learners engage in learning, and how we measure what learners learn. Using UDL principles allows us to embed flexibility into all aspects of instruction from the beginning, rather than trying to retro-fit a rigid curriculum, set of instructional materials, or test for each student who happens to learn a different way. Educators should provide multiple ways to access resources and content so learners are given the opportunity to take charge of their engagement in learning.

The principles of Universal Design for Learning (UDL) can help us refine how we approach who we teach, what we teach and how we teach. Universal Design for Learning (UDL) is all about “how” we define goals, teaching methods, instructional materials and assessments. Innovative technologies and online resources can assist teachers when they modify instruction to better meet student needs. The UDL framework encourages creating flexible designs from the start that have customizable options, which allow all learners to progress from where they are and not where we would have imagined them to be. The options for accomplishing this are varied and robust enough to provide effective instruction to all learners.

Through the use of the framework of Universal Design for Learning, educators can plan and deliver flexible and meaningful lessons that emphasize problem solving, project based learning, and student choice. Exposing novice learners to innovative content acquisition and application supports their development as expert learners. Expert learners are individuals who know how to learn, who want to learn, and who, in their own highly individual ways, are well prepared for a lifetime of learning.

The pedagogical, neuroscience, and practical underpinnings of UDL are also discussed in greater length in books such as “Learning Every Student in the Digital Age” by Rose & Meyer (ASCD, 2002), “The Universally Designed Classroom” by Rose, Meyer, & Hillich, (Eds., Harvard Education Press, 2006), and A Practical Reader in Universal Design for Learning (Rose & Meyer, Eds., Harvard Education Press, 2006).

Center for Applied Special Technology (CAST)

Universal Design for Learning Guidelines

These UDL Guidelines and checkpoints can assist educators in designing flexible lessons and curricula that reduce barriers to learning and provide innovative and supportive learning to meet the needs of all learners. They can also help educators evaluate existing curricula goals, materials, methods and assessments.

**Principle I: Provide Multiple Means of Representation** - the “WHAT” of learning - Learners differ in the ways that they perceive and comprehend information that is presented to them. *There is no one means of representation that will be optimal for all learners; providing multiple options for representation is essential.

**Principle II: Provide Multiple Means of Expression** - the “HOW” of learning - Learners differ in the ways that they can navigate a learning environment and express what they know. *There is no one means of expression that will be optimal for all learners; providing multiple options for action and expression is essential.

**Principle III: Provide Multiple Means of Engagement** - the “WHY” of learning - Learners differ markedly in the ways in which they can be engaged or motivated to learn. Some learners are highly engaged by spontaneity and novelty while others are disengaged, even frightened, by those aspects, preferring strict routine. *Learners have different preferences for what is engaging and motivating so providing multiple options for engagement is essential.*
Activity

• Each person has 3 cards representing the 3 UDL Principles
  • Green for Multiple Means of Engagement
  • Red/Purple for Multiple Means of Representation
  • Blue for Multiple Means of Action and Expression

• For each example given, hold up the card or cards that reflect the corresponding UDL principle(s)
UDL Jeopardy
On The Web

• [http://www.cast.org/](http://www.cast.org/)
• [http://www.udlcenter.org/](http://www.udlcenter.org/)
• Universal Design for Learning (UDL) Guidelines: Full-Text Representation, Version 2.0  February 1, 2011
  http://www.udlcenter.org/aboutudl/udlguidelines/downloads
Video: UDL at a Glance

A short YouTube video created by CAST illustrates the three principles of Universal Design for Learning.

Watch the video

What is UDL?

Universal Design for Learning is a set of principles for curriculum development that give all individuals equal opportunities to learn. Learn more about UDL

How US Federal Statute Defines UDL

The Higher Education Opportunity Act (HEOA) of 2008, passed with strong bipartisan support, established the statutory definition for universal design for learning. Read the definition

UDL Series

A free online collection of rich media presentations that help educators to build UDL understanding, implementation skills, and leadership ability.
Welcome to the Resource Library at the National Center on Universal Design for Learning. This library offers rich resources in a variety of media to improve understanding of UDL and support its implementation.

Featured Videos

UDL at a Glance
Grade 1 Mathematics
Grade 5 Language Arts
Grade 6 Science

Featured Presentations

UDL: Moving from Innovation to Implementation
National UDL Taskforce
UDL: A framework for access and equity
Reaching and Teaching Every Student

Featured Books

A Practical Reader in UDL
UDL in the Classroom:
Technology Tools for Access and Engagement
Design and Deliver
UDL Series

A free online collection of rich media presentations that help educators to build UDL understanding, implementation skills, and leadership ability.

Visit the UDL Series

New UDL Series Session
UDL Implementation: A Process of Change

This session features CAST and district leaders discussing the UDL implementation process, including the five phases of UDL implementation and examples of how to apply the principles of UDL to decision-making and planning.

UDL Guidelines—Examples and Resources

Find teacher-friendly examples and resources that illustrate each of the UDL checkpoints. Try them out in your classrooms today!

Postsecondary Education and UDL

Online and blended-learning approaches are everywhere in postsecondary education. To address learner variability, here are some considerations for designing your curriculum.

Read about Case-Based Learning and Webcast & Web Conferencing.

UDL Professional Learning Services

CAST's UDL professional learning services help educators apply the principles of UDL to decision-making and planning.

UDL Guidelines 2.0 - Educator Checklist

Three primary principles: Download the UDL Guidelines 2.0 - Educator Checklist.
Resources


Resources


• If You Build It, They Will Read Judith Schoonover, Sally Norton-Darr, Mark Nichols Loudoun County Public Schools Presented 7-2014
“Imagine”

- https://www.youtube.com/watch?v=cSIcGocYJ2Dk