MaryAnn Joseph
Special Education Consultant
New Jersey Department of Education
Office of Special Programs

UNIVERSAL DESIGN
UDL offers a new way of thinking about creating multiple learning opportunities in every area of course design.

Once you start thinking this way, the sky's the limit!"

Prof. Sandra Yang, Cal Poly Pomona
LEARNING GOALS FOR TODAY’S DISCUSSION

- Understand the concepts of Universal Design for Learning
- Explore resources that can be used to apply the concepts of Universal Design for Learning in instruction that addresses the needs of every student
UNIVERSAL DESIGN PRINCIPLES

- Consider from the beginning, not add on later
- Not one size fits all
- Increase access opportunities for everyone

Word Association........

UDL = ?
Universal Design for Learning (UDL) is a framework that helps educators to assess educational environments to determine ways that all learners might have access to the general education curriculum in order to gain knowledge, skills, and enthusiasm for learning. This framework addresses ways to reduce barriers to the curriculum while providing accommodations and supports for learning for all students, including those with disabilities.

(adapted from CAST -www.CAST.org)
UDL - DEFINITION

Students come to the classroom with a variety of needs, skills, talents, and interests. For many learners, the typical curriculum—which includes goals, instructional methods, classroom materials, and assessments—is hard to access. UDL is a framework that educators can use to consider supports that address the needs of all learners, particularly those with disabilities, so that all might be able to learn within the general education classroom.

(adapted from CAST -www.CAST.org)
### WHAT BARRIERS TO LEARNING DID YOU FACE AS A STUDENT?

<table>
<thead>
<tr>
<th>Pace was too fast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too social</td>
</tr>
<tr>
<td>different student levels.</td>
</tr>
<tr>
<td>loss of hearing on right ear</td>
</tr>
<tr>
<td>not being able to visually see material</td>
</tr>
<tr>
<td>always given text to read and comprehend</td>
</tr>
<tr>
<td>other students in class that were disruptive and hindered the learning process</td>
</tr>
<tr>
<td>for others.</td>
</tr>
<tr>
<td>bored!</td>
</tr>
<tr>
<td>I had a difficult time concentrating. I was a daydreamer. Still am.</td>
</tr>
<tr>
<td>individual attention</td>
</tr>
<tr>
<td>did not feel challenged</td>
</tr>
<tr>
<td>lack of differentiation</td>
</tr>
<tr>
<td>very quiet. difficult time participating.?</td>
</tr>
<tr>
<td>lack of personalized instruction</td>
</tr>
<tr>
<td>Did not like long presentations</td>
</tr>
<tr>
<td>barriers that I faced as a student were</td>
</tr>
<tr>
<td>single mode of instruction that did not include my learning style</td>
</tr>
<tr>
<td>Did not like it when I was called on in class</td>
</tr>
<tr>
<td>not motivated</td>
</tr>
<tr>
<td>copying large amount of notes from the board and using these notes for the test</td>
</tr>
<tr>
<td>without any explanation</td>
</tr>
<tr>
<td>I was held back by poverty...lack of resources</td>
</tr>
<tr>
<td>Lack of guidance.</td>
</tr>
<tr>
<td>- class size</td>
</tr>
<tr>
<td>summers off</td>
</tr>
<tr>
<td>feeling awkward with much smarter students</td>
</tr>
<tr>
<td>teachers who saw my learning style as disruptive</td>
</tr>
<tr>
<td>social distractions</td>
</tr>
<tr>
<td>lack of differentiation - one size fits all approach</td>
</tr>
<tr>
<td>boredom!</td>
</tr>
<tr>
<td>inability to pay attention</td>
</tr>
<tr>
<td>- Class moved too slowly</td>
</tr>
<tr>
<td>pacing</td>
</tr>
</tbody>
</table>
**WHAT FACTORS WERE SIGNIFICANT IN YOUR SUCCESS AS A LEARNER?**

| **I became successful in classes where teachers were creative** | **self motivation - a need to know.** |
| **leveled classes** | **positive role models** |
| **parents** | **my desire to learn** |
| **Good teachers** | **I have a photographic memory. Well, HAD one** |
| **in college working cooperatively with other students** | **self motivated** |
| **encouraging and motivating teachers** | **teachers who took the time to get to know me and gave me strategies to help me focus parents!** |
| **teacher support and motivation** | **support of my parents and teachers** |
| **individual attention given by a few very good teachers** | **Easier notes and textbooks** |
| **participation in sports** | `- parents` |
| **intrinsic love of learning** | **teachers who made lessons fun and engaging** |
| **teacher support** | **Parental support** |
| **Different resources helped keep me interested** | **Being interested in the subject** |
| **Teachers who took an interest and help me be successful** | |
HOW CAN I INCORPORATE UNIVERSAL DESIGN FOR LEARNING (UDL) INTO MY PRACTICE?
...Consider the broadest range of learners from the beginning...

Ron Mace - architect
CAST believes that “barriers to learning are not, in fact, inherent in the capacities of learners, but instead arise in learners' interactions with inflexible educational goals, materials, methods, and assessments.”

*Teaching Every Student in the Digital Age, p. vi*
“What a school day! The computers broke down and we had to LISTEN!”
VIDEO

http://www.udlcenter.org/screening_room/udlcenter/udl#video3
UDL IS A PARADIGM SHIFT

- 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
- Learning materials are varied
- The solution is within the curriculum. A flexible curriculum adapts to the needs of all students
CONNECTED TO BRAIN RESEARCH

+ Attention
  ✗ Warm, safe environment where students can take risks
  ✗ Active, engaged learners

+ Think time
  ✗ Think . Pair. Share
  ✗ Wait time
  ✗ Group activities

+ Motivating the Learner
  ✗ Teacher as facilitator,
  ✗ Not sage on the stage
# UDL Guidelines

## Universal Design for Learning Guidelines

<table>
<thead>
<tr>
<th>I. Provide Multiple Means of Representation</th>
<th>II. Provide Multiple Means of Action and Expression</th>
<th>III. Provide Multiple Means of Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide options for perception</td>
<td>4. Provide options for physical action</td>
<td>7. Provide options for recruiting interest</td>
</tr>
<tr>
<td>- Options that customize the display of information</td>
<td>- Options in the mode of physical response</td>
<td>- Options that increase individual choice and autonomy</td>
</tr>
<tr>
<td>- Options that provide alternatives for auditory information</td>
<td>- Options in the means of navigation</td>
<td>- Options that enhance relevance, value, and authenticity</td>
</tr>
<tr>
<td>- Options that provide alternatives for visual information</td>
<td>- Options for accessing tools and assistive technologies</td>
<td>- Options that reduce threats and distractions</td>
</tr>
<tr>
<td>2. Provide options for language and symbols</td>
<td>5. Provide options for expressive skills and fluency</td>
<td>8. Provide options for sustaining effort and persistence</td>
</tr>
<tr>
<td>- Options that define vocabulary and symbols</td>
<td>- Options in the media for communication</td>
<td>- Options that heighten salience of goals and objectives</td>
</tr>
<tr>
<td>- Options that clarify syntax and structure</td>
<td>- Options in the tools for composition and problem solving</td>
<td>- Options that vary levels of challenge and support</td>
</tr>
<tr>
<td>- Options for decoding text or mathematical notation</td>
<td>- Options in the scaffolds for practice and performance</td>
<td>- Options that foster collaboration and communication</td>
</tr>
<tr>
<td>- Options that promote cross-linguistic understanding</td>
<td></td>
<td>- Options that increase mastery-oriented feedback</td>
</tr>
<tr>
<td>- Options that illustrate key concepts non-linguistically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Options that provide or activate background knowledge</td>
<td>- Options that guide affective goal-setting</td>
<td>- Options that guide personal goal-setting and expectations</td>
</tr>
<tr>
<td>- Options that highlight critical features, big ideas, and relationships</td>
<td>- Options that support planning and strategy development</td>
<td>- Options that scaffold coping skills and strategies</td>
</tr>
<tr>
<td>- Options that guide information processing</td>
<td>- Options that facilitate managing information and resources</td>
<td>- Options that develop self-assessment and reflection</td>
</tr>
<tr>
<td>- Options that support memory and transfer</td>
<td>- Options that enhance capacity for monitoring progress</td>
<td></td>
</tr>
</tbody>
</table>

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Affective Networks
The "why" of learning
- How learners get engaged and stay motivated,
- How they are challenged, excited, or interested

Stimulate interest and motivation for learning

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

Differentiate ways that students express what they know.

Recognition Networks
The "what" of learning
- How we gather facts and categorize
- What we see, hear, read
- Identifying letters, words, or an author's style.

Present information and content in different way.
UDL Guidelines

1. Provide Multiple Means of Representation

1. Provide options for perception
   - Options that customize the display of information
   - Options that provide alternatives for auditory information
   - Options that provide alternatives for visual information

2. Provide options for language and symbols
   - Options that define vocabulary and symbols
   - Options that clarify syntax and structure
   - Options for decoding text or mathematical notation
   - Options that promote cross-linguistic understanding
   - Options that illustrate key concepts non-linguistically

3. Provide options for comprehension
   - Options that provide or activate background knowledge
   - Options that highlight critical features, big ideas, and relationships
   - Options that guide information processing
   - Options that support memory and transfer

- Read Aloud
- Highlight Phrases
- Audio-text
- Built in language translation
UDL Guidelines

II. Provide Multiple Means of Action and Expression

4. Provide options for physical action
   - Options in the mode of physical response
   - Options in the means of navigation
   - Options for accessing tools and assistive technologies

5. Provide options for expressive skills and fluency
   - Options in the media for communication
   - Options in the tools for composition and problem solving
   - Options in the scaffolds for practice and performance

6. Provide options for executive functions
   - Options that guide effective goal-setting
   - Options that support planning and strategy development
   - Options that facilitate managing information and resources
   - Options that enhance capacity for monitoring progress

- Pointers
- Motor Activities
- Word Webs
- Embedded Prompts
- Embedded Coaching
UDL Guidelines

- Personal Journal
- Flexible Grouping
- Explicit Connection to individual, community
- Respectful, Responsive classroom environment

III. Provide Multiple Means of Engagement

7. Provide options for recruiting interest
   - Options that increase individual choice and autonomy
   - Options that enhance relevance, value, and authenticity
   - Options that reduce threats and distractions

8. Provide options for sustaining effort and persistence
   - Options that heighten salience of goals and objectives
   - Options that vary levels of challenge and support
   - Options that foster collaboration and communication
   - Options that increase mastery-oriented feedback

9. Provide options for self-regulation
   - Options that guide personal goal-setting and expectations
   - Options that scaffold coping skills and strategies
   - Options that develop self-assessment and reflection
Utilizes UDL strategies:
- Affording multiple ways to access content, demonstrate knowledge, and engage student interest

Differentiates Instruction
- Content, process, and/or product is differentiated according to the student’s readiness, interests, and learning profile

Infuses educational technology
- Ubiquitous tools in the learning process requiring higher ordered thinking
Click here for interactive resources
UDL Guidelines – Educator Checklist
## MATERIAL BARRIERS

<table>
<thead>
<tr>
<th>Materials</th>
<th>Possible Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>requires sight and decoding skills in order to make meaning from the content</td>
</tr>
<tr>
<td>Images</td>
<td>require sight, background knowledge and visual processing skills in order to make meaning from them</td>
</tr>
<tr>
<td>Video</td>
<td>requires sight, some background knowledge of the material and the dominant culture. It also requires the ability to focus attention on a story line in order to make meaning from it</td>
</tr>
<tr>
<td>Computer</td>
<td>require background knowledge and skills of how to use them as well as fine-motor skills to operate them</td>
</tr>
<tr>
<td>Music, Sounds, Audio books</td>
<td>require a person to be able to hear and auditory processing skills in order to make meaning from what they are listening to</td>
</tr>
</tbody>
</table>
lightness adjacent to one another, even if they differ in saturation or hue.

Effective

Not as effective

Don’t assume that the lightness you perceive will be the same as the lightness perceived by people with color deficits. You can generally assume that they will see less contrast between colors than you do. Lighten the light colors and darken the dark colors in your design, you will increase its visual appeal.
Facilitating Managing Information
UDL benefits all students, including students who:

+ are Gifted
+ are At Risk
+ are English Language Learners
+ have Special Needs
VIDEO

http://www.udlcenter.org/screening_room/udlcenter/udl
CAST’s Learning Tools

Congressional Briefing
Wednesday
May 19, 2010
UDL Guidelines

The UDL Guidelines are organized according to the three main principles of UDL that address representation, expression, and engagement. For each of these areas, specific "Checkpoints" for options are highlighted, followed by examples of practical suggestions.

Like UDL itself, these Guidelines are flexible and should be mixed and matched into the curriculum as appropriate. The UDL Guidelines are not meant to be a "prescription" but a set of strategies that can be employed to overcome the barriers inherent in most existing curricula. They may serve as the basis for building in the options and the flexibility that are necessary to maximize learning opportunities for all students. Educators may find that they are already incorporating many of these guidelines into their practice.

To learn more about the UDL Guidelines:

Watch a Video | Listen to an Audio Clip | Read an Explanation

Three primary principles guide UDL—and provide structure for the Guidelines:

To learn more, click on one of the Guidelines below.

I. Provide Multiple Means of Representation
   - Perception
   - Language and symbols
   - Comprehension

II. Provide Multiple Means of Action and Expression
   - Physical action
   - Expressive skills and fluency
   - Executive function

III. Provide Multiple Means of Engagement
   - Recruiting interest
   - Sustaining effort and persistence
   - Self-regulation

Resources
- Resource Library
- Screening Room

Key to Icons
- Tell Me More! This icon will link to examples for some of the checkpoints.
- Get Evidence! This icon will link to the latest evidence & scholarly research.
UDL Guidelines - Version 1.0: Research Evidence

Checkpoint 1.1: Options that customize the display of information

Summary
The experimental studies on providing options to customize the display of information are focused on the advantages of flexible typography, layout design, color representation, and large print. However, the experimental research on this topic, at least with learning as the outcome, is limited. There are few studies exploring the advantages of flexible size of text and images, of flexible amplitude of speech and sound, of contrast between background and text or image, of color, etc. due to the fact that the advantages of such flexibility are generally considered self-evident. The scholarly reviews and opinion pieces provide more classroom-based perspectives on the advantages of customizable display. Relevant Web Accessibility Guidelines are also included in this listing.

Do you have additional evidence to support this Checkpoint? Tell us!

Experimental and Quantitative Evidence:
### UDL Guidelines - Version 1.0: Examples and Resources

**Checkpoint 3.3: Options that guide information processing**

Can you think of other examples/resources that illustrate this checkpoint? Tell us!

<table>
<thead>
<tr>
<th>Example/Resource</th>
<th>Description</th>
<th>See Also</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Read With Me eBooks</strong>&lt;br&gt;“The Read With Me eBook program provides teachers and parents with information and materials to help engage young children in activities that support the development of literacy skills.”&lt;br&gt;Why UDL? Read with Me eBooks help to guide the information processing of adults as well as children! The instructional approach guides teachers and parents in how to “talk” to children when they read storybooks aloud. And, this “talk” helps to guide children’s information processing as well.&lt;br&gt;Age Group: 3-4; Teachers and parents&lt;br&gt;Content Area: Early Literacy&lt;br&gt;Cost: Free&lt;br&gt;Technology Involved: Internet connection; print versions of the stories are also available</td>
<td>Teaching materials</td>
<td></td>
</tr>
<tr>
<td><strong>Education Oasis: Graphic Organizers</strong>&lt;br&gt;Education Oasis offers a collection of graphic organizers to help students organize and retain knowledge - cause and effect, character and story, compare and contrast, and more!&lt;br&gt;Why UDL? Graphic organizers are effective examples of guiding information processing. These support the student to organize their thoughts and establish relationships between ideas.&lt;br&gt;Age Group: K-12&lt;br&gt;Content Area: All&lt;br&gt;Cost: Free&lt;br&gt;Technology Involved: Internet connection needed to access the site; can print graphic organizers to use in the classroom with no technology</td>
<td>Teaching materials</td>
<td>Checkpoints: 6.3: Options that facilitate managing information and resources</td>
</tr>
</tbody>
</table>
UDL Online Modules

CAST UDL ONLINE MODULES

Welcome to the CAST UDL online modules. These two online modules introduce the theory, principles and application of Universal Design for Learning (UDL) to teacher candidates and in-service teachers. They provide higher education faculty with a multimedia, interactive online-learning environment that can be embedded in instructional methods courses. They are designed to be flexible enough to be used as part of an online, hybrid or face-to-face course. It is suggested that you create an interactive community of practice using a blog, wiki or other type of interactive web 2.0 media.

What do you get?

Multiple Means of Representation
The content is represented in multiple ways including text, audio clips and video.

Multiple Means of Action and Expression
Online activities, discussion questions and lesson plan assignments allow students to express their understanding in different ways.

Multiple Means of Engagement
Text, audio, video, activities, additional resources, information, links to more information and to other web sites allow students multiple ways to engage with the content.

Additional features
These prompts can be found throughout the modules and provide students with additional opportunities to pause and reflect, to extend their learning, to model UDL and to test their understanding. Embedded prompts are also provided for instructors.

Get Started!

Module 1
Introduction to UDL
Go To Module 1

Module 2
Applying the UDL Framework to Lesson Development
Go To Module 2

What People are Saying

Thank you so much for sharing this fantastic resource! You seamlessly embedded UDL principles throughout the online module which tap into learners' strengths. CAST perfectly modeled what universally designed content looks like. These modules allow just-in-time learning, anytime and anyplace. (Excellent)

Karen Janowski, MS Ed, OTR
Adjunct Professor, Simmons College Graduate School of Education

BrowseAloud
This website is BrowseAloud enabled! BrowseAloud reads the web page text aloud when a mouse cursor is moved over it. Click the BrowseAloud icon to download their free text-to-speech software plug-in.
CAST: [http://www.cast.org/](http://www.cast.org/)


ACKNOWLEDGEMENTS

- The material presented comes from:
  - National Center on UDL: [http://www.udlcenter.org/](http://www.udlcenter.org/)
  - CAST UDL Online Modules: [http://udlonline.cast.org/home](http://udlonline.cast.org/home)