Introduction to Universal Design for Learning

CAST Symposium: UDL for Social Justice
July 31, 2017
Ari Fleisher, Ed.M.

UDL Implementation Specialist

afleisher@cast.org

@AriF_CAST
Today’s goals

Understand the foundational assumptions of Universal Design for Learning (UDL)

Learn how the UDL guidelines addresses learner variability
What are your personal goals for this session?

[Link to Today's Meet]

www.todaysmeet.com/IntroUDL
Universal Design for Learning is a framework to improve and optimize teaching and learning by removing barriers in the environment.
Universal Design for Learning is a framework to improve and optimize teaching and learning by removing barriers in the environment.
What are the consequences of retrofitting?
What are the outcomes of proactive planning?

- Retrofitting for compliance
- Designing up front for all
Universally beneficial...

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!
Universal Design in Architecture

Necessary for some, good for all
Universal: Closed Captioning

1980’s: Individuals purchase captioning boxes

1990: Americans with Disabilities Act (ADA)

1993: FCC mandates that every TV has appropriate chip

Today: Largest population of closed caption users: Spouses who go to bed at different times!

Cost: $100

Necessary for some, good for all.
Universal:

- Automatic doors
- Curb cuts
- Closed captioning
- Easy grip tools

Necessary for some, good for all.
Universal **Design** for Learning

is a framework to improve and optimize
teaching and learning
by removing barriers in the environment.
What is a design mindset?

“A design mindset is… solution focused and action oriented towards creating a preferred future.”
Educators are designers!

Universal Design in architecture: 
eccessary for some, good for all

Universal Design for learning:
ecessary for some, good for all
The Iterative UDL Planning Process

**PLAN**

Use the UDL guidelines to proactively plan lessons that address student variability

**TRY**

Implement the lesson with clear goals and formatively assess student performance

**REFLECT**

Review student work, identify potential barriers, and make adjustments to upcoming lessons
EQUALITY VERSUS EQUITY

In the first image, it is assumed that everyone will benefit from the same supports. They are being treated equally.

In the second image, individuals are given different supports to make it possible for them to have equal access to the game. They are being treated equitably.

In the third image, all three can see the game without any supports or accommodations because the cause of the inequity was addressed. The systemic barrier has been removed.
Do all students learn in the same way?
Do all students learn at the same rate?

The barrier is in the learning environment, not the student.
As educational designers, we **identify** and **reduce** barriers in learning environments.
Goals should be clear but flexible—avoid including \textit{how} to meet the goal.
What is your goal?

- To do more sit ups.
- To get fit by doing sit ups.
- To get fit.

Clear goals with flexible means reduce barriers.
Clear Goals, Flexible Means

Goal: Students will write a five paragraph essay describing the phases of metamorphosis of butterflies.

- Is the goal **specific**?
- Is the “**how**” embedded?
  - If so, does it need to be?
- How can we scaffold or support the learning to reduce barriers?
Clear Goals, Flexible Means

Goal: Students will write a five-paragraph essay describing the phases of metamorphosis of butterflies.

- Is the goal specific?
- Is the “how” embedded?
  - If so, does it need to be?
- How can we scaffold or support the learning to reduce barriers?
What about rigor?

UDL is not about lowering expectations. It’s about clarifying them!!!

- Names of each three stages
- What happens in each stage
- Sequence of the stages
- Length of each stage
- Optimal climate conditions
Clear Goals, Flexible Means

Goal: Students will write a five paragraph essay describing the phases of metamorphosis of butterflies. *a topic of their choice.*

- Is the goal specific?
- Is the “how” embedded?
  - If so, does it need to be?
- How can we scaffold or support the learning to reduce barriers?
Identifying and Reducing Barriers in Assessment

Assessments should directly measure the goal—with clear criteria for success
Identifying and Reducing Barriers in Methods or Materials

Methods and materials should account for student variability

Start with the goal!
Universal Design for Learning is a framework to improve and optimize teaching and learning by removing barriers in the environment.
Goal: Friends eat and enjoy my meal.
Assessment: Ask them.
Methods/Materials: Serve a Mexican Lasagna.

Who won’t be able to meet this goal?
Expect Variability!

- Vegetarian
- Lactose-intolerant
- Gluten-free
- Recent root canal → temperature sensitive today
- Doesn’t like onions
Variability is the rule, not the exception
Individual Variability

Finger Tapping

Person 1  Person 2  Person 3
A Network of Brain Activity

Reading a word

from Annenberg Learner’s Neuroscience and the Classroom, 2016
The barriers is in the environment, not the learner

Too much of a good thing can be a bad thing--offer intentional, strategic options!

Design from the beginning with options
From Ability and Disability to Variability

- Variability in language
- Variability in attention
- Variability in social-emotional comfort
- Variability in background knowledge
Predictable Variability

✧ Variability in Engagement
✧ Variability in Representation
✧ Variability in Action and Expression

❖ How did you feel?
❖ How do you learn about it?
❖ What did you do with that knowledge?
Problem solving framework

UDL

Proactive design
UDL is a framework, not a checklist

Think of looking at learning through a UDL lens
Infuse UDL based on your goal
Universal Design for Learning Guidelines

3 Principles/Brain Networks

**Provide Multiple Means of Engagement**

The Why

- 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 collaborative community
  - Increase 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**

The What

- 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 perception
  - Offer ways of customizing the display of information
  - Offer alternatives for auditory information
  - Offer alternatives for visual information

**Provide Multiple Means of Action & Expression**

The How

- 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
  - Optimize use of media for communication
  - Use multiple tools for construction and composition
  - Build fluencies with graduated levels of support for practice and performance

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

(c)2014 CAST, Inc.
The UDL guidelines help to support **expert learning**.
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
  + Varied demands and resources to challenge collaboration and community 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 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 level support for practice and performance

- Provide options for perception
  + Offer ways of customizing the display of information
  + Offer alternatives for auditory information
  + Offer alternatives for visual information

- Provide options for physical action
  + Vary the methods for response and navigation
  + Optimize access to tools and assistive technologies
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
  - State personal coping skills and strategies
  - Support 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 Multiple Means of Action & Expression**
*Strategic, goal-directed learners*

- Provide options for executive functions
  - Guide appropriate planning and management
  - Enhance capacity

- 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

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

(c)2014 CAST, Inc.
## Universal Design for Learning Guidelines

**Provide Multiple Means of Engagement**
- Internalize Learner
  - Provide options for self-regulation
    - Promote expectations and beliefs that optimize motivation
    - Facilitate personal coping skills and strategies
    - Develop self-assessment and reflection

**Provide Multiple Means of Representation**
- Learner
  - 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 Multiple Means of Action & Expression**
- Learner
  - Provide options for executive functions
    - Guide appropriate goal-setting
    - Support planning and strategy development
    - Enhance capacity for monitoring progress

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

**Provide options for language, mathematical expressions, and symbols**
- Learner
  - 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 expression and communication**
- Learner
  - Use multiple media for communication
  - Use multiple tools for construction and composition
  - Build fluencies with graduated levels of support for practice and performance

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

**Provide options for perception**
- Learner
  - Offer ways of customizing the display of information
  - Offer alternatives for auditory information
  - Offer alternatives for visual information

(c)2014 CAST, Inc.
Teach students **how** to learn
Small changes make a big difference!
The affective network helps learners to become engaged and stay motivated.

Emotions are why students are interested in, challenged by, or excited for learning experiences.

@CAST_UDL | #UDL4Justice

from Meyer, Rose, & Gordon, 2013
Learning and Emotions

How do you feel?

Goal: describe the connections between learning and emotions.
Today you are going to...
Today you are going to...
Today you are going to...
The Affective Principle
We Feel, Therefore We Learn

Emotions are **not** messy toddlers in a china stop, running around breaking and obscuring delicate cognitive glassware.

Instead, emotions are more like the shelves underlying the glassware; without them cognition has less support.

*from* Immordino-Yang & Damasio, 2007
Facilitate Coping Skills: The Mood Meter

ACTIVATION

- tense
- nervous
- stressed
- upset

DEACTIVATION

- calm
- relaxed
- serene
- contented

PLEASANT

- excited
- elated
- happy

UNPLEASANT

- sad
- depressed
- bored
- fatigued
Provide Multiple Means of Representation

THE WHAT OF LEARNING

The recognition network is where sensory information is processed.

As students perceive information in the environment, they are able to construct knowledge.

from Meyer, Rose, & Gordon, 2013
Learning and the Senses

What do you perceive?

Goal: describe the connections between learning and the senses.
What is this?
What is this?
What is this?
What is this?
Three Sisters Poem

By Kasia Derbiszewska
Providing Multiple Representations

Identifying the subject of a poem

Three Sisters

With hocked gems financing him, 
Our hero bravely defied all laughter
That tried to prevent his scheme.
“Your eyes deceive,” he said.
“An egg not a table describes this unexplored planet.”
Now three sturdy sisters sought proof,
Forging along
Sometimes through calm vastness,
But more often over turbulent peaks and valleys.
Days became weeks as many doubters spread
Fearful rumors about the edge.
At last, welcome-winged creatures appeared,
Signaling momentous success.
The strategic network or the “CEO” of the brain supports the development of expertise in **executive functions**.

Strategic expertise includes setting **goals**, **effectively monitoring progress**, and **adjusting approaches** as needed.

*from* Meyer, Rose, & Gordon, 2013
Learning and Strategy

How do you act on or express your knowledge?

Goal: describe the connections between learning and the strategic brain networks.
Write your name...

With your dominant hand

With your non-dominant hand

With something else!
Mismatch between Learner and Designed Environment
Goal: Demonstrate understanding of pioneer life.

Rate each student’s understanding from 0–5.

Does not understand at all

Excellent understanding
Goal: Demonstrate understanding of pioneer life.
Goal: Demonstrate understanding of pioneer life.

*Teacher:* “So, tell me about pioneers.”

*Student:* “A pioneer is a person who has left their home to go West.”
Goal: Demonstrate understanding of pioneer life.

“A pioneer is a person that has chosen or is forced to leave their home. A pioneer leaves their home or cabin in a covered wagon. They didn’t have construction builders, so they would make everything out of nature. They would travel up and down mountains and up and down lakes, rivers, and streams.”
Universal Design for Learning is a framework to improve and optimize teaching and learning by removing barriers in the environment.
Check back on your goal

What progress did you make?

What tools and strategies will you use now?

www.todaysmeet.com/IntroUDL

@CAST_UDL | #UDL4Justice
What resonates?

What is one burning question you have?

www.todaysmeet.com/IntroUDL
Thank you!

Ari Fleisher
afleisher@cast.org
@AriF_CAST