Universal Design for Learning
The CAST Guidelines!

Webinar
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Introducing the Presenters

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Options for Today

Options for Perception:
- Large Projection
- Website

Options for Action and Expression:
- Stand, Sit, Walk, Stretch
- Raise a hand, write in the chat, tweet #CASTPL or #udlchat

Tools Needed for Expert Learning:
- Colored Pencils
- Notebooks
- Fidgets
- Markers

@CAST_UDL | #UDLpower

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Goals:

**Review** the foundational concepts of UDL

**Understand** the development of the CAST guidelines

**Explore** each Principle

**Design** using the guidelines

**Explore** strategies for each guideline
Your Own Goals

• What are your **personal** goals for today’s workshop?

• What are your **professional** goals for today?
How do we make curriculum and all Tiered Interventions accessible to all learners?
Review The UDL Core Concepts

Architecture  Neuroscience  Guidelines
Review: The UDL Core Concepts

The Barrier is in the Environment

Neuroscience

Guidelines
The UDL Core Concepts

The Barrier is in the Environment

Variability is the Norm

Guidelines
The UDL Core Concepts

The Barrier is in the Environment

Variability is the Norm

The Goal is Expert Learning
Developing the Guidelines

Sources
Modern research in the learning sciences: cognitive science, cognitive neuroscience, neuropsychology, neuroscience.
Stage 1

Focus
What is the range and sources of human variance in learning?

Yield: 3 Principles
Affective networks monitor the internal and external environment to set priorities, motivate, and engage learning and behavior.

Recognition networks sense and perceive information in the environment and transform it into usable knowledge.

Strategic networks plan, organize, and initiate purposeful actions in the environment.

How students will engage? How students will perceive? How students will act on their understanding?
Stage 2

Focus

What are the essential components to supporting variance in the three networks?

Yield: 9 guidelines.
Stage 3

Focus
What are the specific practices that reduce barriers to learning in each of the principles?

Yield: 31 Checkpoints
The goal of UDL is to support expert learning.
UDL Guidelines

Teacher Led

Teacher and Student

Student Led
“All learning is the interaction between the learner and the environment.”

- David Rose
The Goal of Universal Design for Learning

The diagram illustrates the three core principles of UDL:

1. **Provide multiple means of Engagement**
   - Affective Networks
   - The "Why" of Learning

2. **Provide multiple means of Representation**
   - Neuroanatomical Networks
   - The "How" of Learning

3. **Provide multiple means of Action & Expression**
   - Neurocognitive Networks

The diagram also highlights the characteristics of **Expert learners** who are:

- **Purposeful & Motivated**
- **Resourceful & Knowledgeable**
- **Strategic & Goal-Directed**
Expert Learning

Ask yourselves:
When have you been an expert learner?
What did that look like?
What do you expect from your students in terms of expert learning?

The Goal of UDL
Developing Expert Learners

<table>
<thead>
<tr>
<th>Engagement Purposeful &amp; Motivated Learners</th>
<th>Representation Resourceful &amp; Knowledgeable Learners</th>
<th>Action and Expression Strategic &amp; Goal-Directed Learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Are eager for new learning and motivated by the mastery of learning itself</td>
<td>• Consider prior knowledge when learning (Make connections to prior learning experiences)</td>
<td>• Formulate plans for learning</td>
</tr>
<tr>
<td>• Are goal directed in their learning</td>
<td>• Activate that prior knowledge to identify, organize, prioritize and assimilate new information</td>
<td>• Devise effective strategies and tactics to optimize learning</td>
</tr>
<tr>
<td>• Know how to set challenging learning goals for themselves</td>
<td>• Recognize the tools and resources that would help find structure and remember new information</td>
<td>• Organize resources and tools to facilitate learning</td>
</tr>
<tr>
<td>• Know how to sustain the effort and resilience that reaching those goals will require</td>
<td>• Know how to transform new information into meaningful and usable knowledge</td>
<td>• Monitor their progress</td>
</tr>
<tr>
<td>• Monitor and regulate emotional reactions that would be impediments or distractions to successful learning.</td>
<td></td>
<td>• Recognize their strengths and weaknesses as learners</td>
</tr>
</tbody>
</table>

**Expert learners** who are...

- **Purposeful & Motivated**
- **Resourceful & Knowledgeable**
- **Strategic & Goal-Directed**
Networks Overview
Engagement Principle

The Universal Design for Learning Guidelines

Provide multiple means of Engagement

Recruiting Interest
- Optimize individual choice and autonomy
- Optimize meaning, value, and authenticity
- Minimize threats and distractions

Sustaining Effort & Persistence
- Heighten salience of goals and objectives
- Vary demands and resources to optimize challenge
- Foster collaboration and community
- Increase mastery-oriented feedback

Self Regulation
- Promote expectations and beliefs that optimize motivation
- Facilitate personal coping skills and strategies
- Develop self-assessment and reflection

Expert learners who are...
- Purposeful & Motivated

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Affective Network

We Feel Therefore we learn!

Reflection:

1. What surprised you about the content?
2. What most resonated with you?
Representation Principle

Provide multiple means of Representation
Recognition Networks
The "WHAT" of Learning

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 Language & 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 Comprehension
- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization
- Maximize transfer and generalization

Resourceful & Knowledgeable
Fugue - Music Only
Fugue - Sheet Music

Toccata and Fugue in D minor

Adagio

Presto
Fuge - Alternative Representation
Reflection

● Which representation worked for you and why?

● Did a combo of representations work and why?

● Can you think of another way to represent this content?

Options for Action and Expression:

● In the Chat
● In your own notebook
● Sketch
Action and Expression Principle

Provide options for **Physical Action**
- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Provide options for **Expression & 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 **Executive Functions**
- Guide appropriate goal-setting
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

Strategic & Goal-Directed
Action and Expression

Reflection:
What if Stephen were limited to one aspect of expression?
Given your experience in schools, what resonates with you about this?

Express:
In the chat
On your own
Sketch
Reflect and Record

In what ways are you already offering options in your instruction?

What are your go to teacher moves and where do you see them fitting in the guidelines?

Options for Expression:
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch
- Use the pdf of the guidelines
So What?
Keep in Mind

UDL is a **framework**, not a checklist

Think of looking at learning through a UDL lens
Start Small

Small changes make a big difference!
UDL: Designing to Minimize Barriers

How students will engage?
- Choice of 2 relevant texts

How students will perceive?
- Read aloud
- Individual Copies paper/digital
- Record on vocaroo

How students will act on their understanding?
- Options
  - Podcast, Infographic, Thesis Paper, Blog
- Graphic Organizer
Let’s Try!

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will create a cereal box to show understanding of element
Barriers

Where might you anticipate barriers in the Affective Network or the Engagement Principal?

Options for Expression:

- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will create a cereal box to show understanding of element.
Barriers

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will create a cereal box to show understanding of element

Where might you anticipate barriers in the Recognition Network or the Representation Principal?

**Options for Expression:**
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch
Barriers

Where might you anticipate barriers in the Strategic Network or the Action and Expression Principal?

Options for Expression:
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch

Standard: Use the periodic table as a model to predict the relative properties of main group elements.

Goal: Students will create a cereal box to show understanding of element
Options

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will demonstrate their understanding of the properties of a particular element.

What options might you build into this lesson in order to reduce barriers in the Affective Network or the Engagement Principal?

**Options for Expression:**
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch

Standard: Use the periodic table as a model to predict the relative properties of main group elements.

Goal: Students will demonstrate their understanding of the properties of a particular element.

Options for Expression:
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch
Options

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will demonstrate their understanding of the properties of a particular element.

What options might you build in to address barriers in the Recognition Network or the Representation Principal?

**Options for Expression:**
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch
Options

**Standard:** Use the periodic table as a model to predict the relative properties of main group elements.

**Goal:** Students will demonstrate their understanding of the properties of a particular element

What options might you build in to reduce barriers in the Strategic Network or the Action and Expression Principal?

**Options for Expression:**
- Put it in the chat
- Record on your own
  - Notebook
  - Voice recorder
  - Sketch
Guide to Designing Your UDL Lesson
Guidelines

Exploration
Recruiting Interest: Optimize Individual Choice and Autonomy

Choices
- Texts or Topics
- Collaboration Partners/ Seating
- Perceived Challenge
- Materials
- Co-Constructing Curriculum
- Ways to practice or demonstrate competence
- Organization
- Sequence of tasks
- Setting own goals
Recruiting Interest: Optimize Relevance, Value and Authenticity

- Culturally Relevant and Responsive
- Socially Relevant
- Age Appropriate

- Real World Examples
- Real World Application
- Authentic novel problems and products
- Foster creativity and Self Reflection
Recruiting Interest: Minimize Threats and Distractions

- Trauma Sensitive Classroom
  - Choice of Seating
  - Options for Self Regulation
  - Predictable routines
  - Visual timers, cues, status bars

- Vary level of sensory stimulation

- Vary Social engagement or demand
Options for Perception

● Ways to enlarge, highlight, alter text.
● Closed Captioning, speed up or slow down videos
● Speech to text
Options for Physical Action

- Draw, write, talk (vocaroo), manipulate or sketch
- Switches, alternative keyboards, Google Read&Write
Options to Sustain Effort & Persistence

- Make goals public and student facing
- Vary resources for demands
  - Zone of proximal development
- Collaboration (direct instruction)
- Mastery-oriented feedback
  - Moving beyond sticker charts.
Provide Options for Language and Symbols

- Word Walls
- Interrupted passage?
- Interactive Dictionary’s
- Picture Dictionary
- Images to support text
- Edpuzzle - annotate a video
- Annotated Versions
- QR Codes for supplemental information.
- Anchor Charts
- Opt In Groups
Options for Expression & Communication

- Compose in multiple media such as text, speech, drawing, illustration, design, film, music, dance/movement, visual art, sculpture or video
- Physical manipulatives
- Interactive web tools - google docs
- Solve problems using a variety of strategies
- Spell/Grammar Check
- Sentence Starters
- Calculators
- Story Webs/Graphic Organizers
- Differentiated Feedback
Options for Self-Regulation

- Rubrics, guides, checklists, status bars
- Set goals with students to increase self reflection
- Slowly increasing demand or time on task
- Timers
- Demonstrate coping skills
- Model self reflection
- Encourage students to try out strategies
- Coping strategy plans with feedback
Options for Comprehension

- Graphic Organizers
- Concept Maps
- Bridge concepts with metaphors or analogies
- Make explicit cross curricular connections
- Highlight critical features
- Provide Options for organization of information, tables, graphs, charts
- Multiple pathways into material
Options for Executive Function

● Goal-setting templates
● Progress Trackers
● Rubrics (see Single Point Rubrics)
● Goals and Schedules in an obvious place
● Provide check-lists or other supports for appropriate strategies and sequence for students to organize their efforts.
● Model Think Aloud Process
● Graphic Organizers
● Self Assessment Strategies
Keep in Mind

UDL is a framework, not a checklist

Think of looking at learning through a UDL lens
Start Small

Small changes make a big difference!
Reflection

What questions do you have?

What concerns you?

What excites you?
Thank You!