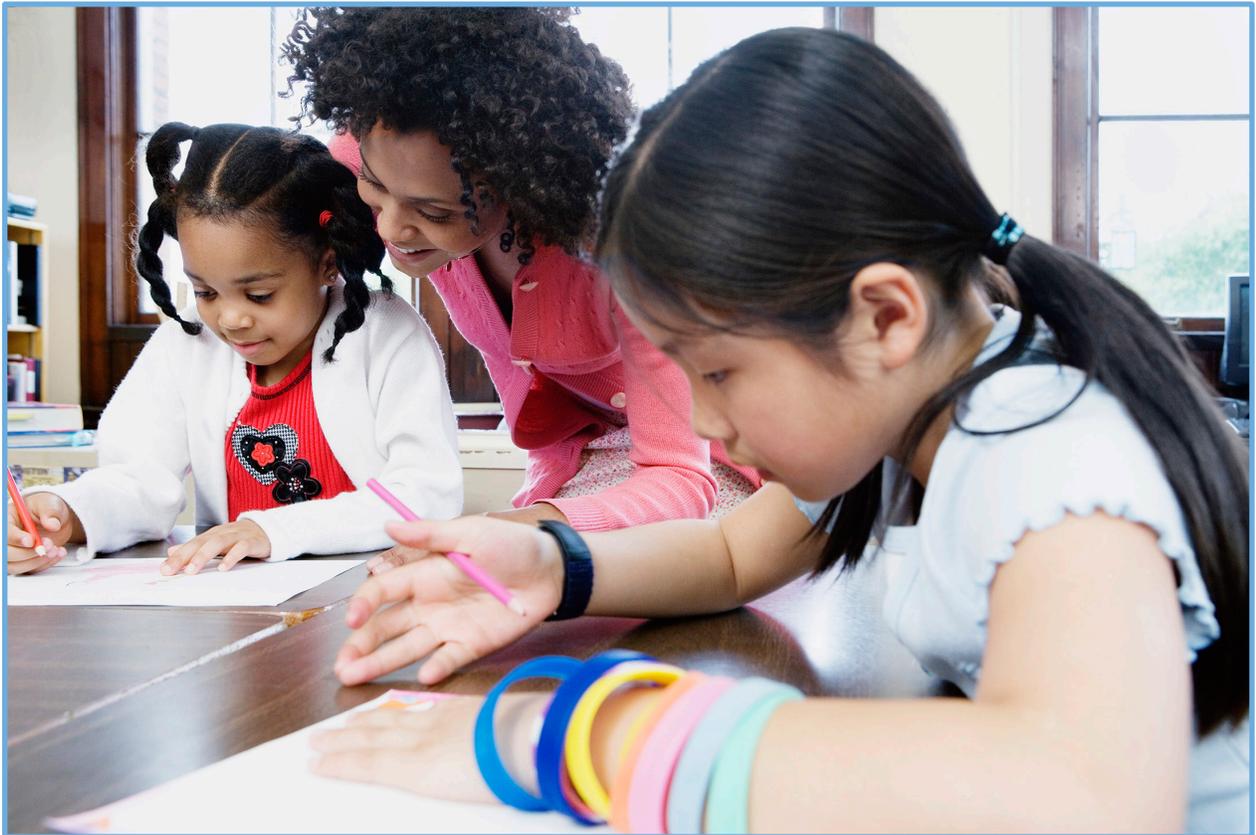


Universal Design for Learning Anchor Presentation

Anchor Presentation Facilitator's Guide



May 2015

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This Facilitator’s Guide is intended for use with the following resources:

- Presentation slides
- Participant handouts

These resources are available on the Course Enhancement Modules webpage of the CEEDAR Center website (www.ceedar.org).

Introduction to the Universal Design for Learning Anchor Presentation

The Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center developed this anchor presentation on Universal Design for Learning to assist faculty at institutions of higher education (IHEs) and professional development providers in the training and development of all educators. This anchor presentation provides information and resources about how to prepare teacher and leader candidates or current practitioners to create effective instructional environments for all students, including students with disabilities and their nondisabled classmates. This presentation helps educators discover the potential benefits of designing a learning environment and instructional materials that are accessible for all students.

Purpose

This anchor presentation is designed to build the knowledge and capacity of educators in the selected topic. The module can be adapted and is flexible to accommodate faculty and professional development provider needs. The anchor presentation and speaker notes can be used in their entirety to cover multiple course or professional development sessions. Alternatively, specific content, activities, and handouts can be used individually to enhance existing course and/or professional development content. Universal Design for Learning is a framework with many parts. This presentation is designed to appeal to novices who are new to UDL, and to appeal to seasoned professionals who may want to revisit the fundamentals of UDL to refresh their practice.

Audience

The audience is intended to be teacher and leader candidates within preservice programs at the undergraduate or graduate levels and/or district teachers and leaders participating in inservice professional learning opportunities. The facilitator's guide is designed as a blueprint to support faculty and professional development providers charged with providing teachers and leaders with training in a selected topic. The training can be conducted by faculty and by state and local professional development providers.

Facilitator's Guide

The facilitator's guide consists of anchor presentation slides with a script to support facilitators as they present the content and learning activities within the anchor presentation. Facilitator's notes and talking points are included. The speaker notes are intended as a guide for a facilitator who is using the PowerPoint slides and may be modified as needed. Reviewing the entire guide prior to facilitating the training is highly recommended.

Organization

The anchor presentation is organized into four main parts:

Part 1: Introduction. This part introduces participants to Universal Design for Learning, including where it came from and the model of learner variability that it is based on. In this section, participants will begin a KWL chart, watch two videos about Universal Design in architecture and design, connect ideas in architecture and product design to classrooms and curricular design, interact with the learner variability model and watch a video that describes the learner variability model, get introduced to the idea of equitable opportunities, and become familiar with some key vocabulary.

Part 2: The UDL Framework. The second part of the presentation is a general overview of how to use the UDL framework for planning instruction for diverse learners. Part 2 is divided into sections that address the major ideas that are in CEEDAR's knowledge paper, the Innovation Configuration titled *Universal Design for Learning: Recommendations for Teacher Preparation and Professional Development*. The major ideas from this paper have been turned into questions for this part of the presentation, and each is addressed individually. The questions are: 1. How can the Universal Design for Learning framework reduce barriers to learning and support high expectations for learning? 2. How can we apply the four curricular pillars of UDL implementation (i.e. goals, instruction, materials, and assessment) in different instructional contexts? 3. What are the three principles of UDL framework and how do they apply to instructional planning, instruction, and environments that support learning? 4. How can the nine UDL guidelines and accompanying checkpoints be used to create instructional environments that support learning?

Throughout Part 2 there are activities, videos, and handouts. The goal was to make the presentation itself a UDL product, to the extent that a PowerPoint can be made accessible to all learners. It will be up to the facilitator to include or not include the suggested activities.

Part 3: Putting UDL Into Action. This section gives participants an opportunity to practice planning instruction using the UDL framework. It starts with a review of what UDL is compared to traditional practice. After that it is divided into five sections that reflect the second half of the Innovation Configuration paper. Each section addresses a question. The questions are: 1. How can we proactively plan instruction using the Universal Design for Learning three principles, nine guidelines, and accompanying checkpoints? 2. How can we create and evaluate learning environments that align with the Universal Design for Learning Framework? 3. How do we identify and strategically use materials, curricula, and technologies that align instruction with the Universal Design for Learning framework? 4. How do we use progress monitoring and data-based decision making to inform instruction and student learning in order to provide timely mastery-oriented feedback? 5. How do we strategically integrate evidence-based practices into Universal Design for Learning planning, teaching, and assessment?

Again, in this section, there are multiple videos, activities, and handouts. The goal is for participants to really engage with the material, and UDL strategies were used to as great an extent as possible to achieve that goal.

Part 4: A Deeper Dive into UDL Implementation. This section provides one more opportunity for participants to clarify any remaining confusion about UDL, reconsider learner variability and learn additional ways to present information and have students demonstrate their learning. Similar to Part 3, Part 4 is aligned with the second half of the UDL innovation configuration and addresses planning instruction and assessing the work of the teacher candidate and k-12 students using the principles and guidelines of UDL.

There are multiple videos, activities, and handouts to engage participants in authentic application of UDL principles.

NOTE: The ppt is separated into two sections – Section I contains Parts 1 and 2; Section II includes Parts 3 and 4.

Resources

The following resources are provided for use in delivering the anchor presentation:

- Facilitator’s guide (this document)
- Presentations
- Participant handouts, as needed

All of these materials may be used and adapted to fit the needs of the training context. To cite the content, please use the following statement: “These materials have been adapted in whole or in part with permission from the CEEDAR Center.”

Materials

The following materials are recommended for training and associated activities:

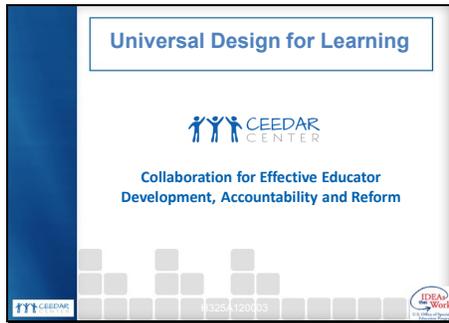
- Chart paper
- Sharpie markers for chart paper
- Regular markers at each table
- Post-it Notes
- Timer
- Pens at each table
- Internet connection for website links embedded in presentations
- A large screen for showing the videos

Needed materials will vary based on the content and activities selected, which will depend on the audience and the format of the course or professional development session.

In This Guide

The rest of the guide provides a script to support facilitators as they present the content and learning activities of this anchor presentation. Reviewing the entire guide prior to facilitating the training is highly recommended.

Slide 1



This PowerPoint is part of the Universal Design for Learning (UDL) Content Enhancement Module (CEM). This presentation, used in conjunction with the other supporting materials, is intended for use by university and college faculty and other appropriate Institute of Higher Education (IHE) staff to develop and enhance their teacher and leadership education courses as well as their professional development programs for practitioners.

This CEM describes the background and genesis of UDL, the principles and guidelines that make up the UDL framework, and provides opportunities for participants to practice implementing the UDL framework.

Speaker notes are provided for most of the PowerPoint slides. The notes provide additional details about the information presented in the particular slide, including the context for the information being presented as well as further elaboration of key points being discussed. The notes also indicate when the speaker may want to use a handout that has been created to supplement the material in the PowerPoint.

Slide 2



Goals

1. By the end of the presentation, participants will understand the Universal Design for Learning framework.
2. By the end of the presentation, participants will be able to apply the Universal Design for Learning framework to support diverse learners in their classroom practice

CEEDAR and IDEA Work logos are visible at the bottom.

The two primary goals of the CEM are to facilitate an understanding of UDL and create teachers who can and will use the UDL framework. **If you are going to use the vocabulary handout this would be a good time to pass it out.

Slide 3



Why?

The Challenge:

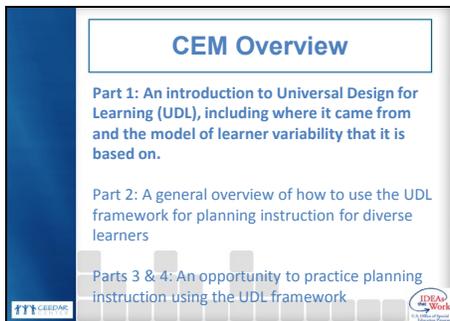
Access, participation, and progress in the general education curriculum for all learners

IDEA (1997)

CEEDAR and IDEA Work logos are visible at the bottom.

UDL is a framework that directly addresses the law's demand for the general education curriculum to be made accessible to all learners. In a learning environment that has been created with the UDL principles in mind all students benefit, so it is not only a legal responsibility but a moral responsibility as well.

Slide 4



CEM Overview

Part 1: An introduction to Universal Design for Learning (UDL), including where it came from and the model of learner variability that it is based on.

Part 2: A general overview of how to use the UDL framework for planning instruction for diverse learners

Parts 3 & 4: An opportunity to practice planning instruction using the UDL framework

CEEDAR and IDEA Work logos are visible at the bottom.

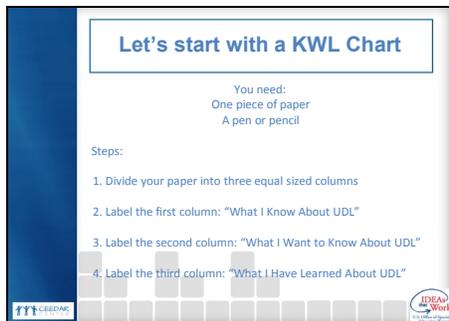
This PowerPoint is divided into four parts. The first part is an introduction and background, the second part is learning about the bulk of the big ideas of UDL, and the final two parts are focused on practice.

Slide 5



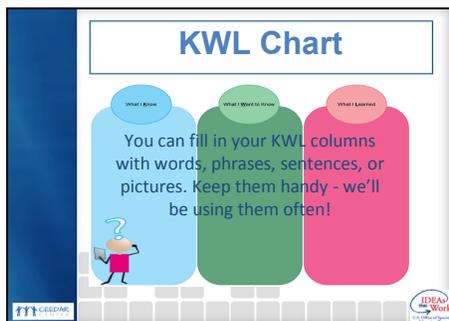
The first part of this PowerPoint focuses on UDL's roots in architecture and design and the brain science related to learner variability that provides the basis for UDL.

Slide 6



Many of your participants will be familiar with what a KWL chart is, but just in case it would be worthwhile to explain that a KWL chart is a useful classroom tool that we are also going to use as we go through the three parts of this PowerPoint. The “K” stands for “Know” (as in “What I Already Know”) the “W” stands for “Want” (as in “What I Want to Know”) and the “L” stands for “Learn” (as in “What I Have Learned”). The participants will refer back to this chart multiple times throughout the presentation.

Slide 7



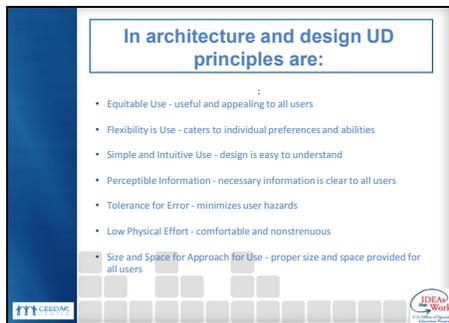
Encourage the participants to be thoughtful as they fill this out. There shouldn't be anything in the third column, yet, unless they learned something from the IDEA slide. If time permits ask them to share something they want to learn or something they already know with a person near them. Another option is to ask them to stand up and find someone else in the room who has a response that is similar to their own.

Slide 8



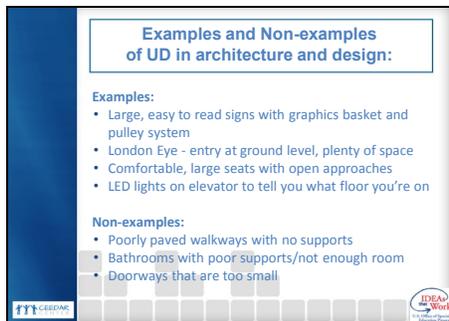
This video is a little over 6 minutes long. It is not professionally made, but it is a good, brief introduction to Universal Design in the world of architecture, landscape, and product design. Before you show it you may want to briefly explain that UDL has its origins in fields other than education.

Slide 9



These principles are taken directly from the video. If time permits you may want to ask the participants to look around themselves and see if they can find an example or non-example of Universal Design.

Slide 10



These are the examples and non-examples from the video.

Slide 11



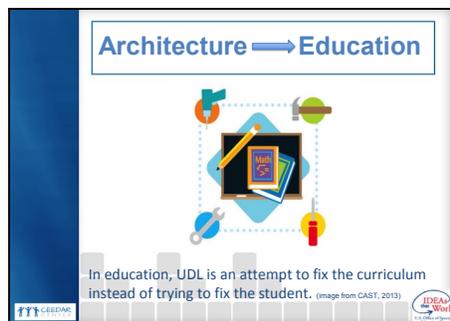
This video is a little over 5 minutes long. It is about how one home was built using Universal Design. This video is an especially strong example of how UD done well means that accommodations don't have to be made later on.

Slide 12



This slide is an opportunity for the participants to synthesize some of the information that was in the videos.

Slide 13



This slide transitions us from Universal Design to Universal Design for Learning. In architecture, UD is an attempt to make the product fit the user, and in education UDL is an effort to make the curriculum fit the student, instead of vice versa. This is a critical concept.

Slide 14

Architecture → Education

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



From: <http://www.udliverse.com/>
Introduction to UDL.ppt

CEEDAR
IDEAO Work

If time permits you could take a moment on this slide and ask participants to relate the words to the picture. How does the staircase/ramp relate to course design that is accessible?

Slide 15

Architecture → Education

UD	UDL
Physical Environment	Instructional Environment
Physical barriers may exist in our architectural environment	Learning barriers may exist in our curricular environment
Proactive design of physical space	Proactive design of curriculum and instruction
Physical retrofitting can be costly and is often inelegant	Instructional accommodations can be time consuming and difficult to implement

From: <http://www.udliverse.com/>
Introduction to UDL.ppt

CEEDAR
IDEAO Work

This chart compares how UD and UDL implementation can be parallel experiences.

Slide 16

Architecture → Education

If a building or product is created using the principles of Universal Design then it is accessible to almost all people without any modifications.

If a teacher uses the Universal Design for Learning framework to create a lesson it is also accessible to almost all students without any modifications or accommodations.

CEEDAR
IDEAO Work

This is the final slide about the relationship between UD and UDL. This is the most important take-away idea from this first part.

Slide 17

**UDL Introduction:
Revisit KWL Chart**

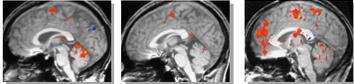
- Is there anything to add to “What you know” column?
- Are there things to add to the “Want to know” column?
- Have you learned anything you can add to the “What I learned” column?
- Remember - you can use words, phrases, sentences, or pictures.



This is an opportunity for the participants to reflect on the ideas that have been introduced so far. Again, you may want to find a reason to get them out of their seats, so you could ask somebody to read something they learned and ask the participants to stand if that was also something they learned.

Slide 18

**UDL Introduction:
Learner Variability**



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.

CAST: Teaching Every Student
© 2007-2009



The UDL framework is based on learner variability, which is scientifically validated. We all use different parts of our brains to do all kinds of things – no learner is exactly like any other learner. This slide shows how even the simplest task is processed in different parts of three people’s brains.

Slide 19

**UDL Introduction:
Learner Variability**

A video about learner variability and UDL:
http://udseries.udcenter.org/presentations/learner_variability.html?list=explore

After you have watched the video, think about these three questions:

1. Why are curricula limited if they are designed for the ‘average’ learner?
2. What makes learner variability systematic?
3. Why is it important for educators to know about systematic learner variability?

Share your thoughts with a partner.



This video is 15 minutes and 36 seconds long. **There is a handout that you can use to accompany this video. There is a point in the video at 4:55 when you are prompted to stop the video and the come back after you have had a chance to respond to the prompt. It stops again at 8:55 and asks you to download a worksheet – this is the one in your handout. You will have to click on something to restart the video both times. After you have watched the video, read the questions out loud and allow the participants to reflect and then respond to the questions with a partner.

Slide 20

**UDL Introduction:
Equitable Opportunities**

The basic UDL premise is that to provide equitable opportunities to reach high standards across variable students in our schools, we must:

- Provide multiple means of *engagement*
- Provide multiple means of *representation*
- Provide multiple means of *action and expression*

CEEDAR Center logo and IDEAS Work logo are visible at the bottom.

This is the first mention in this PowerPoint of the three major principles of UDL. All of UDL comes back to these three principles, and these three principles are based entirely on the idea of learner variability, so it is important that you make the connection explicit here.

Slide 21

**UDL Introduction:
Vocabulary**

Framework: Universal Design for Learning is a framework – not a checklist. It is the interior frame around which you build the structure that is to become your lesson. Just like a steel or metal building frame, the UDL framework has been carefully calibrated and tested to ensure that it will stand the test of time.

Learning Environment: When we talk about the learning environment as it relates to UDL, we're talking about both the space/location of your lesson, and the way the students can use the space. In an ideal scenario a teacher has the opportunity to tailor space to meet the needs of students for each lesson, and to provide access to tools, resources, and strategies for learning. Further, the tools and resources are flexible in a UDL environment, meaning their use is not specifically prescribed by the teacher.

Lesson Goal: In the UDL framework the lesson goal is the most important thing. A well-planned lesson goal will describe what the student is supposed to learn, but not how the student is going to learn. Goals should be observable and measurable, but the means of achieving the goal should be flexible.

CEEDAR Center logo and IDEAS Work logo are visible at the bottom.

This slide and the next are text heavy. We suggest you invite different participants to read the definitions out loud. There is a space on their vocabulary handout for participants to take notes on these terms.

Slide 22

**UDL Introduction:
Vocabulary**

Access: When we use the term "access" in a conversation about UDL we can be referring to a student's physical ability to access the information, and/or to a student's ability to connect with the information. If students have access it means that they are given a reason to emotionally attach to the lesson; they know they will have a variety of opportunities to interact with the topic; and they will have multiple chances to demonstrate their understanding of the topic.

Barriers: A barrier in UDL is anything that inhibits a student's ability to fully engage with the lesson. It can be a physical barrier, a lack of background knowledge, difficulties with learning, or difficulties regarding emotionally connecting with the lesson or the instructor.

CEEDAR Center logo and IDEAS Work logo are visible at the bottom.

It would also be helpful to ask participants to explain to a partner these terms using their own words, or draw a picture that demonstrates the word's meaning, or write a summary definition.

Slide 23

**UDL Introduction:
Revisit KWL Chart**

- Is there anything to add to “What you know” column?
- Are there things to add to the “Want to know” column?
- Have you learned anything you can add to the “What I learned” column?
- Remember - you can use words, phrases, sentences, or pictures.

This is another opportunity for participants to revisit their KWL charts.

Slide 24

You have completed Part One!

~this is the end of Part One of the professional development presentation on Universal Design for Learning ~

Slide 25

CEM Overview

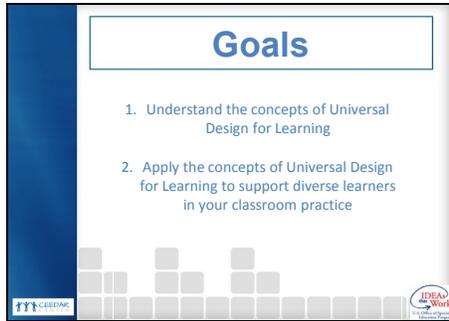
Part 1: An introduction to UDL, including where it came from and the model of learner variability that it is based on.

Part 2: A general overview of how to use the UDL framework for planning instruction for diverse learners

Part 3: An opportunity to practice planning instruction using the UDL framework

This is the same slide the participants saw at the beginning of Part One. We are now getting ready to begin Part Two, which is about what the UDL framework is and how it can be applied in a classroom setting.

Slide 26



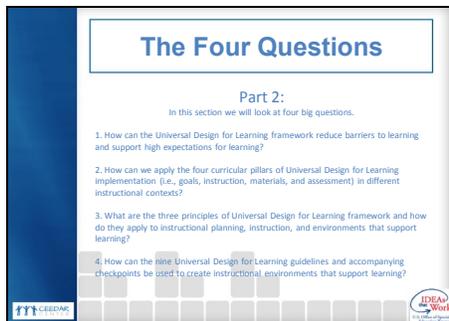
Goals

1. Understand the concepts of Universal Design for Learning
2. Apply the concepts of Universal Design for Learning to support diverse learners in your classroom practice

CEEDAR Center logo and IDEA Work logo are visible at the bottom.

These are the same goals that were at the beginning of Part 1. We are just returning to them as a refresher.

Slide 27



The Four Questions

Part 2:
In this section we will look at four big questions.

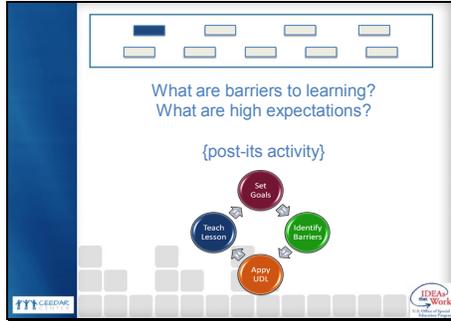
1. How can the Universal Design for Learning framework reduce barriers to learning and support high expectations for learning?
2. How can we apply the four curricular pillars of Universal Design for Learning implementation (i.e., goals, instruction, materials, and assessment) in different instructional contexts?
3. What are the three principles of Universal Design for Learning framework and how do they apply to instructional planning, instruction, and environments that support learning?
4. How can the nine Universal Design for Learning guidelines and accompanying checkpoints be used to create instructional environments that support learning?

CEEDAR Center logo and IDEA Work logo are visible at the bottom.

In this section we will address these four questions, which are adapted from the essential components from the “Universal Design for Learning: Recommendations for Teacher Preparation and Professional Development” Innovation Configuration that the CEEDAR Center produced. **There is a Timeline handout that you may want to pass out now that correlates to these four questions and will serve as a guide through Part Two and Part Three.

There isn’t any need to go into depth about these questions at this point (or even to read them if you pass out the handout.) This slide is meant to serve as a guide to knowing what is coming in general, not in detail.

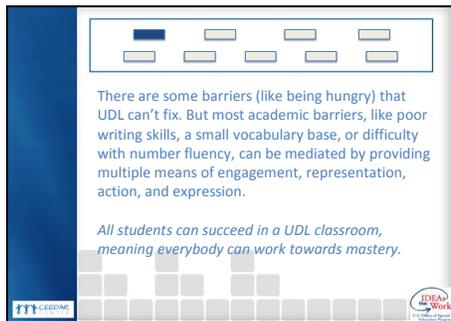
Slide 28



This is the first slide that addresses question 2.1: How can the Universal Design for Learning framework reduce barriers to learning and support high expectations for learning?

Pass out post-it notes and have everybody write five separate post-its that each have a barrier to learning on it. Then have everybody write another five with high expectations on them. Give them space on a wall to put their post-its up next to others who are similar. (It should turn into a series of clusters.) The purpose of this activity is twofold. It is meant to get the participants thinking about real life example rather than abstract concepts so that as they learn more about UDL they are in the mindset that it is a pragmatic framework, rather than a theory or idea, and it also to begin the conversation about barriers and expectations.

Slide 29



It might be interesting at this point to ask the participants to think about the barriers they wrote down and raise up fingers indicating how many of the barriers to learning they wrote down could be addressed by providing multiple means of engagement, representation, action, and expression.

Slide 30

Let's make it all about you for a moment!

Imagine you were asked to fix a three-course meal for 12 people. Here's the menu:

First Course: Tandoori Mackerel
Second Course: Lamb Chilli Masala
Third Course: Gulab Jamun

What would intimidate you about this task?

What would be your preferred method to begin to learn about how to prepare this meal?

How would proceed after you had overcome your barriers and prepared to begin?

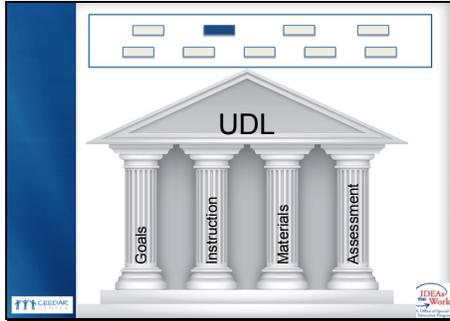
Slide 31

If the dinner challenge had been created using the UDL framework, how would it have been different?

- ❖ How could the barriers have been reduced?
- ❖ How could we have supported the high expectations?

This slide addresses the question of how can the Universal Design for Learning framework reduce barriers to learning and support high expectations for learning? Hopefully, participants will say that if the dinner challenge had been created so that people could work in teams, or if all of the ingredients had already been bought, or the recipes had been provided, or if they had a commercial kitchen to work in, etc., the barriers would have been reduced and it would have made the task more approachable. Similarly, the participants might say that scaffolding the dinner challenge, or providing a chef-guide, or going out to an Indian restaurant first all would have been supports that would have allowed them to meet an expectation of success. Depending on time and dynamics you can have participants respond to this slide individually, with partners, small groups, with the whole group, or on large posters you've placed around the room.

Slide 32



This slide introduces the four curricular pillars of UDL. We have moved from 2.1 to 2.2, and we are now focusing on this question: How can we apply the four curricular pillars of Universal Design for Learning implementation (i.e., goal, instruction, materials, and assessment) in different instructional contexts? We will address each of these four curricular in the following slides.

Slide 33

Clear learning goals are the foundation of any effective curriculum. Only by clarifying what we want to accomplish and when - in the next 10 minutes, in the next lesson, in the next year - can we begin to consider what assessments, methods, and materials will be most effective.

Goals are often described as learning expectations.

This slide introduces the first curricular pillar – goals.

Slide 34

Traditionally goals represent the knowledge and skills that all learners should master and are generally aligned to standards. From a UDL perspective, affective goals such as developing enthusiasm for learning and an ability to self-regulate are equally important. In our view, affective goals should be more clearly articulated in standards, and, more specifically, included in assessment.

This slide further expands the idea of goals to include the idea that affective goals are important in a UDL classroom.

Slide 35

From a UDL perspective, effective goals are goals that:

- Separate the means from the ends;
- Consider all three learning networks;
- Challenge all learners;
- Actively involve learners.

We haven't introduced the three learning networks yet, so if a participant asks about it, assure them they will learn more two slides from here.

Slide 36

Instructional methods include the decisions, approaches, procedures, and routines that teachers use to accelerate or enhance learning. Because learners vary in the ways they become and stay motivated to learn, comprehend information, and strategically approach tasks, *the UDL framework emphasizes the need to employ many kinds of teaching methods.*

This slide introduces the second curricular pillar – instruction.

Slide 37

To support diverse affective networks:

- Offer choices of content and tools
- Offer adjustable levels of challenge
- Offer choices of rewards
- Offer choices of learning context

To support diverse strategic networks:

- Provide flexible models of skilled performance
- Provide opportunities to practice with supports
- Provide ongoing, relevant feedback
- Offer flexible opportunities for demonstrating skill

To support diverse recognition networks:

- Provide multiple examples
- Highlight critical features
- Provide multiple media and formats
- Support background context

**There is a handout that goes with this slide that has pictures of the brain networks. This is relevant to the instruction pillar because supporting all three of the brain networks with different instructional methods is key to working with the UDL framework.

Slide 38



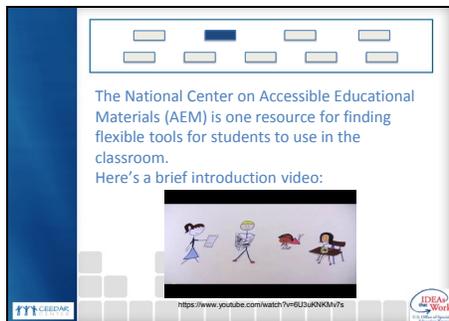
According to UDL, effective materials are those that:

- Align to goals;
- Engage learners in becoming pro-active.

CEEDAR Center logo and IDEA Work logo are visible at the bottom.

This slide introduces the third curricular pillar – materials.

Slide 39



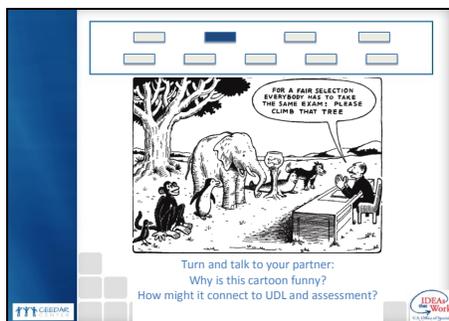
The National Center on Accessible Educational Materials (AEM) is one resource for finding flexible tools for students to use in the classroom. Here's a brief introduction video:

<https://www.youtube.com/watch?v=EU3uQNMN7s>

CEEDAR Center logo and IDEA Work logo are visible at the bottom.

The video on this slide run 3:42. It's about materials that address literacy issues. After the participants watch the video you can do one of three things: 1. Initiate a discussion about how the materials discussed in the video help students who don't have disabilities. 2. Discuss other materials that help students in other subjects (like science or math). 3. Move on.

Slide 40



FOR A FAIR SELECTION EVERYBODY HAS TO TAKE THE SAME EXAM. PLEASE CLIMB THAT TREE.

Turn and talk to your partner:
Why is this cartoon funny?
How might it connect to UDL and assessment?

CEEDAR Center logo and IDEA Work logo are visible at the bottom.

This slide introduces the fourth curricular pillar – assessments. Give the participants a chance to share their ideas with their partners. If it's time to get folks to stand up you might want people to stand if they've seen this cartoon before. Ask them to keep standing if seeing it while thinking about UDL has given them a new perspective.

Slide 41

From a UDL perspective, effective assessments:

- Are ongoing and focused on learner progress;
- Measure both product and process;
- Are flexible, not fixed;
- Are construct relevant;
- Actively inform and involve learners.

Logos for CEEDAR and IDEA Work are visible at the bottom.

This slide defines assessments in UDL terms.

Slide 42

CAST 2018 UDL at a glance
 https://www.youtube.com/watch?v=8Dw01Yg6e4

Logos for CEEDAR and IDEA Work are visible at the bottom.

This slide addresses question 2.3, what are the three principles of Universal Design for Learning framework and how do they apply to instructional planning, instruction, and environments that support learning? The video is mostly a 4 minute and 36 second review of things that have already been touched on, but it organizes the information and frames the three principles in the larger ideas.

Slide 43

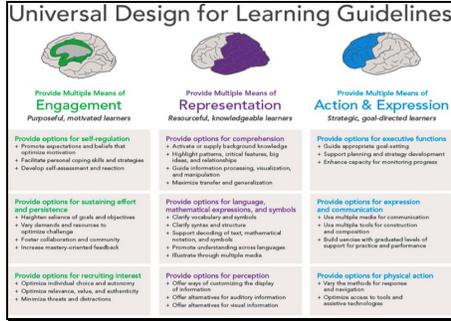
I. Provide Multiple Means of Representation	II. Provide Multiple Means of Action and Expression	III. Provide Multiple Means of Engagement
Perception	Physical action	Recruiting interest
Language and symbols	Expressive skills and fluency	Sustaining effort and persistence
Comprehension	Executive function	Self-regulation

9 Guidelines

Logos for CEEDAR and IDEA Work are visible at the bottom.

This slide introduces questions 2.4, how can the nine Universal Design for Learning guidelines and accompanying checkpoints be used to create instructional environments that support learning? This graphic shows the three principles, and underneath the nine guidelines that correlate to each principle.

Slide 44

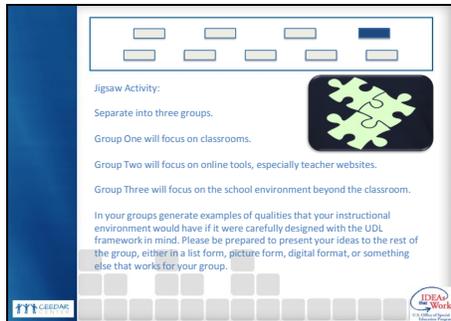


Universal Design for Learning Guidelines

Provide Multiple Means of Engagement Purposeful, motivated learners	Provide Multiple Means of Representation Resourceful, knowledgeable learners	Provide Multiple Means of Action & Expression Strategic, goal-directed learners
Provide options for self-regulation <ul style="list-style-type: none">• Promote expectations and beliefs that enhance motivation• Facilitate personal coping skills and strategies• Develop self-assessment and reaction	Provide options for comprehension <ul style="list-style-type: none">• Activate or supply background knowledge• Highlight patterns, critical features, big ideas, and relationships• Guide information processing, visualization, and organization• Maximize transfer and generalization	Provide options for executive functions <ul style="list-style-type: none">• Guide appropriate goal setting• Support planning and strategy development• Enhance capacity for monitoring progress
Provide options for sustaining effort and persistence <ul style="list-style-type: none">• Highlight relevance of goals and objectives• Vary demands and resources to address challenge• Foster collaboration and community• Increase mastery-oriented feedback	Provide options for language, mathematical expressions, and symbols <ul style="list-style-type: none">• Clarify vocabulary and symbols• Clarify syntax and structure• Support decoding of text, mathematical notations, and symbols• Promote understanding across languages• Illustrate through multiple media	Provide options for expression and communication <ul style="list-style-type: none">• Use multiple media for communication• Use multiple tools for construction and comparison• Build on prior with graduated levels of support for practice and performance
Provide options for recruiting interest <ul style="list-style-type: none">• Optimize individual choice and autonomy• Optimize relevance, value, and authority• Minimize threats and distractions	Provide options for perception <ul style="list-style-type: none">• Offer ease of accessing the display of information• Offer alternatives for auditory information• Offer alternatives for visual information	Provide options for physical action <ul style="list-style-type: none">• Vary the methods for response and navigation• Optimize access to tools and assistive technologies

This is an expanded version of the principles and guidelines document that includes the checkpoints. **There is a handout of this slide if you would like to pass it out.

Slide 45



Jigsaw Activity:

Separate into three groups.

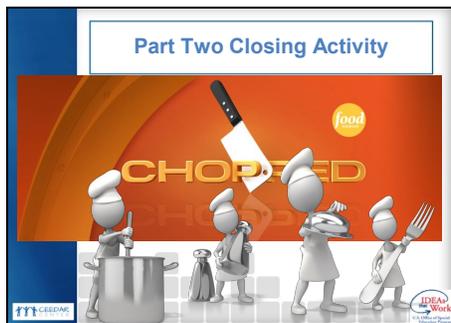
- Group One will focus on classrooms.
- Group Two will focus on online tools, especially teacher websites.
- Group Three will focus on the school environment beyond the classroom.

In your groups generate examples of qualities that your instructional environment would have if it were carefully designed with the UDL framework in mind. Please be prepared to present your ideas to the rest of the group, either in a list form, picture form, digital format, or something else that works for your group.

CEEDAR Center | IDEA Work

Question 2.4 specifically asks us to think about learning environments, and this Jigsaw activity is an attempt to get the participants to engage with the idea of UDL as a framework that doesn't just address lesson planning, but that asks us to look at our entire environment as a part of the learning process. It is important that the participants have plenty of time to share ideas in their individual groups, and also to have plenty of time to share out with the larger group.

Slide 46



Part Two Closing Activity

CHOPPED

food

CEEDAR Center | IDEA Work

This slide begins a series of slides that uses the Food Network show “Chopped” as a metaphor for UDL. This is an open-ended closing activity. For people who aren't familiar with “Chopped,” it is a lot like “Iron Chef” and other food competition shows. Specifically, “Chopped” brings four chefs together for a competition. Each chef is given a small amount of time to prepare a dish each round. The resultant meals are judged on presentation, taste, and use of ingredients. After each round, one chef is “chopped” or eliminated.

Slide 47



Each chef is given some mandatory ingredients. These are things that have to be included in the final dish the chef presents to the judges. In this example the mandatory ingredients are sardines, watermelon, and herb cheese.

Slide 48



They are not limited to the mandatory ingredients. In fact, they have access to a fully stocked pantry. Spices, pastas, wine, etc. are all available to enhance the dish.

Slide 49



The kitchen they work in was designed to be efficient and to have all of the appliances they could want. Additionally, everything is easy to reach and they don't have to clean up after themselves.

Slide 50



The resultant dishes are different - they look and taste very different yet they each contain the mandatory ingredients.

Slide 51

Part Two Closing Activity

Chopped can be a metaphor for UDL in a variety of ways. What metaphor do you see in this example? There is a handout with the images on it. Write, draw, or in some way demonstrate a connection between Chopped and UDL.



**The handout is intended to allow the participants make a full-scale metaphor, connecting all of the parts. There is no right answer to this activity. The participants could connect the show to the essential elements of UDL, or to a student's experience of an assignment, or to a teacher creating a lesson, or to a building trying to adopt UDL. The goal of this activity is for the participants to think through all they have learned and to try to form a narrative of the information.

Slide 52

Time to return to the KWL Pages!

Is there anything to add to "What you know" column?

Are there things to add to the "Want to know" column?

Have you learned anything you can add to the "What I learned" column?

Remember - you can use words, phrases, sentences, or pictures.



A final chance in Part Two to add to their KWL charts. If you're a facilitator with a strong grasp of UDL you may want to collect the KWL charts at this point and make notes of what questions the participants still have that haven't been addressed so that you can address them during Part Three.

Slide 53

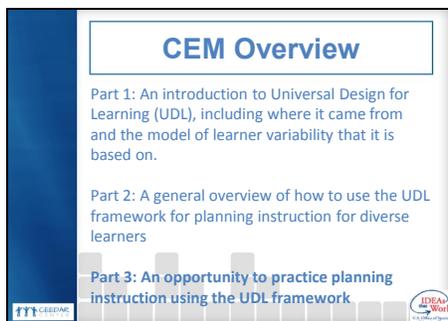


Slide 54



This is the beginning of Section II, the third part of this PowerPoint.

Slide 55



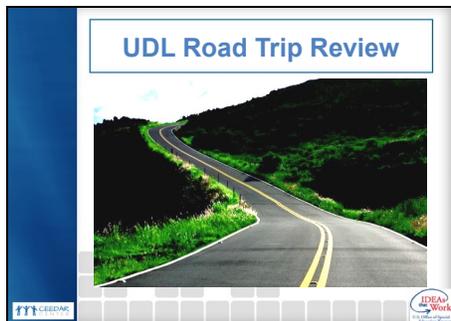
The purpose of this section is to give the participants an opportunity to practice some of the skills they need to implement the UDL framework in their classrooms.

Slide 56



This is a reiteration of the same goals that were introduced in Section I, Parts One and Two.

Slide 57



This is the first slide in a short series that uses a road trip metaphor to remind the participants of some key ideas about UDL.

Slide 58



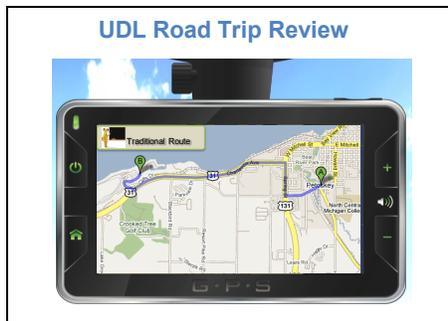
This graphic is meant to look like a GPS. The top four squares are the four curricular pillars – goals, methods, assessment, and materials. The bottom row of squares represents the three big principles of UDL – multiple means of representation, multiple means of expression, and multiple means of engagement.

Slide 59



In a traditional classroom, teachers wrote prescriptive goals, like “Students will write a descriptive essay about Greek mythology.”

Slide 60



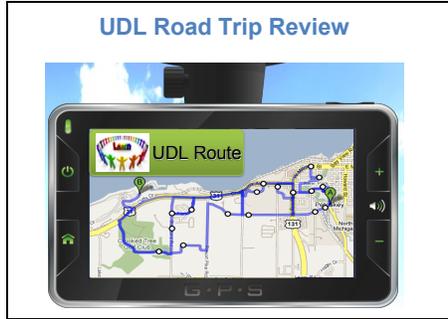
The goal in a traditional classroom is to get from the starting point to the end point in a single, seemingly efficient way. You might take time here to point out, though, how this route might not work for everybody. They might not have a car, for instance, or it might not have sidewalks for people who primarily bike. Public transportation might not offer service on this route, or there may be construction going on that makes the route impassable. Having a single route does sometime work, but often it does not.

Slide 61



The UDL classroom teacher writes goals that allow students to show what they know in a variety of ways.

Slide 62



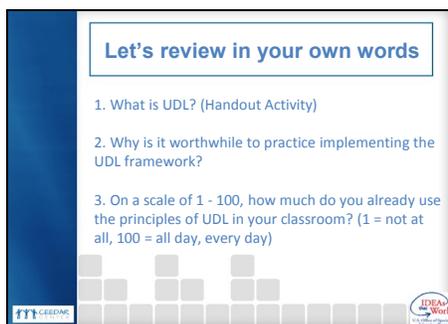
The UDL classroom offers students (and teachers!) a variety of options, so that people can find their own, best way.

Slide 63



Students can use graphic organizers, PowerPoint, videos, handwritten papers, typed papers, diagrams, oral presentations, podcasts, etc. to present the information they know. This is an example of how a goal can be written with the UDL framework in mind, and then how multiple means of expression and action can be used to show what students know. This is a limited example, but it's meant to activate the participants' memory of the UDL principles, and to give them another metaphor to use to relate to the UDL framework.

Slide 64



**There are two handouts that contain the same information in different activity formats that you can use at this point. The activities ask participants to identify examples and non-examples of UDL in the classroom.

Slide 65

The Five Questions

Part 3
In this section we will work with five questions.

1. How can we proactively plan instruction using the Universal Design for Learning three principles, nine guidelines, and accompanying checkpoints?
2. How can we create and evaluate learning environments that align with the Universal Design for Learning Framework?
3. How do we identify and strategically use materials, curricula, and technologies that align instruction with the Universal Design for Learning framework?
4. How do we use progress monitoring and data-based decision making to inform instruction and student learning in order to provide timely mastery-oriented feedback?
5. How do we strategically integrate evidence-based practices into Universal Design for Learning planning, teaching, and assessment?

ITT CEEDAR IDEAoWork

In this section we will address these five questions, which are adapted from the essential components from the “Universal Design for Learning: Recommendations for Teacher Preparation and Professional Development” Innovation Configuration that the CEEDAR Center produced.

There isn’t any need to go into depth about these questions at this point (or even to read them if you passed out the handout.) This slide is meant to serve as a guide to knowing what is coming in general, not in detail.

Slide 66

UDL Implementation

Can you design to the edges?

Watch this video:
<https://www.youtube.com/watch?v=4eBmytcfU4>

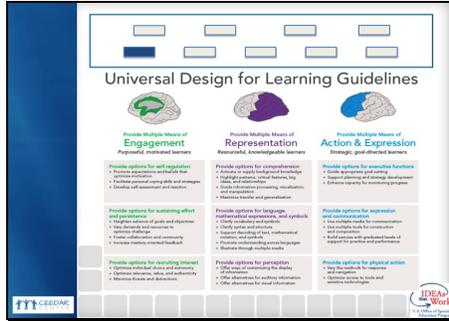
After you watch the video respond and/or reflect with a partner on the metaphor on your handout.

ITT CEEDAR IDEAoWork

This video’s running time is 18:26. It’s a TEDx video featuring a high school dropout turned Harvard faculty member, who talks about how a simple new way of thinking helps nurture individual potential.

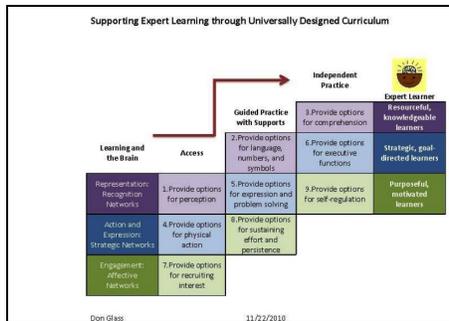
After the participants have watched the video have them respond to the video using their handout.

Slide 67



This is the first slide that addresses the 3.1 question, which is, “How can we proactively plan instruction using the Universal Design for Learning three principles, nine guidelines, and accompanying checkpoints?” Take a moment to revisit this handout. If you want, it might be a good time to ask the participants to highlight one checkpoint they absolutely think they can implement in their classroom.

Slide 68



This slide takes the same information that is on the handout and puts it into a different form. You can point out that each of the principles has a checkpoint that addresses “access,” “guided practice and supports,” and “independent practice.”

Slide 69



Let's return to our Indian Meal that we were asked to prepare in Part One.

Remember - you were asked to fix a three-course meal for 12 people. Here's the menu:

First Course: Tandoori Mackerel
Second Course: Lamb Chilli Masala
Third Course: Gulab Jamun

Separate into three groups.
Group one – focus on the “Engagement” principle.
Group two – focus on the “Representation” principle.
Group three – focus on the “Action and Expression” principle.

Go through the guidelines and checkpoints and determine what it would look like if you were guiding students through the process of making this meal. How would you address each of the points that fall under the umbrella of your principle?

Make sure participants have the Universal Design for Learning Guidelines handout. If there is time – have each group do each of the principles.

Slide 70

Let's re-write some lesson objectives using phrases that fit within the UDL framework.

Move from here

- Read
- Listen
- Write
- Speak
- Manipulate Calculations
- Remember concepts
- Remember procedures
- Solve Problems

to here

- ✧ Take in information
- ✧ Express information
- ✧ Demonstrate understanding of processes
- ✧ Demonstrate understanding of concepts and ideas
- ✧ Show what they know through personally accessible formats
- ✧ Create a representation of what they know

**There is a handout that goes with this slide. Invite the participants to work on their own or in groups. Invite people to share examples when they're finished.

Slide 71

The CAST UDL Exchange is an amazing resource. There are lesson plans, resource collections, and a lesson building tool all in one place. Let's all take a moment to register an account right now.

URL:
<http://udlexchange.cast.org/>

This is a really great resource for the participants to engage with as they implement the UDL framework into their classrooms. Encourage them to use their laptops or phones to sign up immediately.

Slide 72

Materials Competition!

Each table has a large piece of paper.

We're going to set a timer for 5 minutes.

The team that can list the most materials and means of representation in 5 minutes wins.

Examples: Highlighters, Quizlet, Venn Diagrams...

You will need to have large pieces of paper ready to distribute with markers. It would be awesome if you had prizes for the winners. Anything the participants list that you could use in a classroom is a good answer – ipads, globes, dictionaries, colored pencils, stickers, post-its, etc. The purpose of this activity is to help the participants see that they have access to many things that can help them create a UDL environment and that can be used to plan UDL lessons.

Slide 73

Self-reflection time:

1. What is *one* lesson that you could adjust to incorporate more ideas from the UDL framework?
2. How would you adjust it?

Jot down your ideas. Then, highlight the parts of your UDL Guidelines sheet that will be addressed with these changes.

For pre-service participants who don't have a lesson they can think about off the top of their head, invite them to think of a lesson they were recently engaged in as a student. Ask how the teacher might have made it more interesting/effective/meaningful if they had used the UDL framework.

Slide 74

Learning Environment
Creating Barriers v. Removing Barriers

Creating possible barriers: Student desks remain in rows and columns throughout the year. This way the students face you and you can see what they are doing at all times while you lecture, display information on the screen, or have them work at their desks.

Removing barriers: Student desks are moved based on the structure of the lesson (e.g. collaborative work, individual work, partner work, presentations) and desired learning (e.g. students will combine their predictions of random issues to develop a group hypotheses).

This is the first slide that addresses question 3.2, which is, “How can we create and evaluate learning environments that align with the Universal Design for Learning Framework?” You could ask the participants how the “Creating possible barriers” example in this slide does create barriers.

Slide 75

Learning Environment
Creating Barriers v. Removing Barriers

Creating possible barriers: Alphabet posters are hung on the narrowest wall because they visually look best there

Removing barriers: Alphabet posters are hung in a spot where learners can see them easily and they are consistently used as a teaching tool

Adapted from Design and Deliver, Planning and Facilitating Quality Universal Design for Learning by Lou Lord Nelson

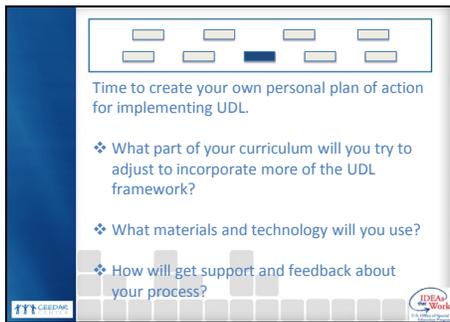
This is a good slide to mention that in a UDL environment everything has a purpose, and everything is placed where it can best serve its intended function. If you want you could ask the participants if they design their home in this way, or if their home is designed for beauty over function. In an ideal situation, a UDL environment is both visually appealing and functional.

Slide 76



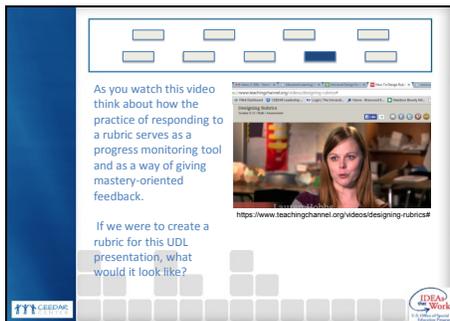
This slide is the first to address question 3.3, which is “How do we identify and strategically use materials, curricula, and technologies that align instruction with the Universal Design for Learning framework?” The link below the webpage picture on the slide links to the UDL Toolkit on the Cast website. It is a good resource, and depending on how much time you have and your web-exploring capabilities with the whole group, you may want to navigate through some of the website.

Slide 77



This is an opportunity for the participants to answer a few basic questions to get them to begin to own the next big step – which is taking what they’ve learned and actually applying it in their classrooms. Depending on time and energy level, you could have them respond on their own, or in small groups, and have everybody share one answer with the whole group.

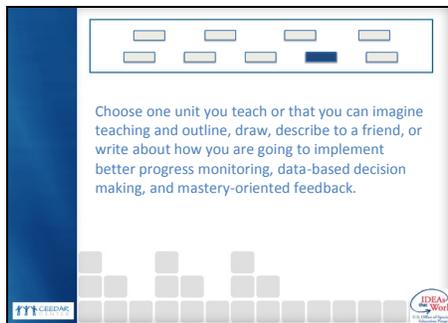
Slide 78



This slide is addressing question 3.4, which is “How do we use progress monitoring and data-based decision making to inform instruction and student learning in order to provide timely mastery-oriented feedback?” The 2 minute and 11 second video is about a teacher who is using a mid-project review rubric. The question then asks participants to engage in conceptualizing a rubric for this PowerPoint. If you have time it would be effective to have the participants break into groups and create a rubric that could be used to provide both

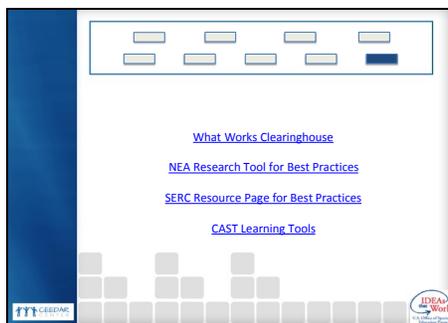
progress monitoring and mastery-oriented feedback of this presentation.

Slide 79



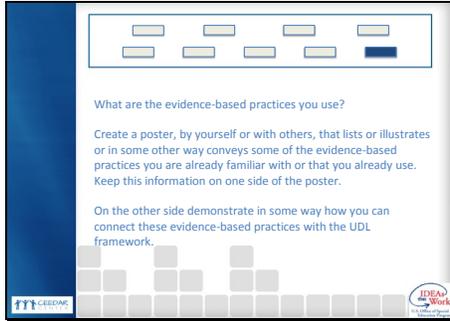
This slide asks participants to take look at question 3.4 from a personal point of view.

Slide 80



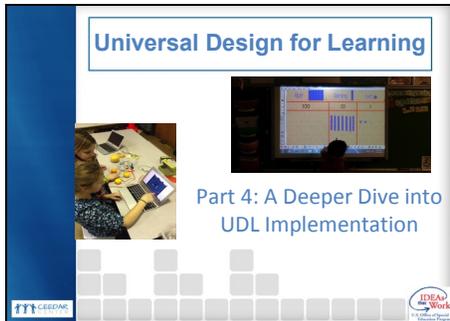
This slide introduces question 3.5, which is “How do we strategically integrate evidence-based practices into Universal Design for Learning planning, teaching, and assessment?” Your participants comfort level with this question will have a lot to do with their familiarity of evidence-based practices. The websites above are all resources for finding lists and examples of evidence-based practices. If you can click on the websites so teachers can see what the resources are that are available, that would be ideal.

Slide 81



A final opportunity for the participants to think about what they're already doing or familiar with and how they can use that knowledge in their UDL implementation.

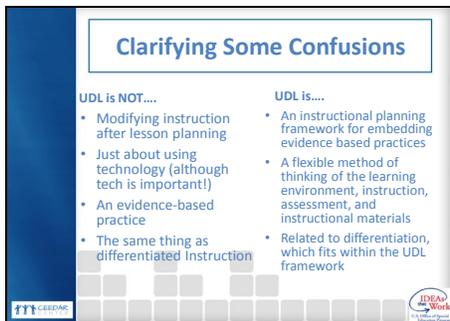
Slide 82



This is the beginning of the fourth and final part of this PowerPoint.

Speaker Notes: These speaker notes are intended to facilitate discussion around integrating UDL into instruction. They provide additional details about each of the slides, including examples and context.

Slide 83



There is often confusion about what IS and what ISN'T UDL. This confusion occurs for several reasons. It's helpful to start by considering what IS and what ISN'T UDL before we talk about how to integrate UDL into instruction.

FIRST, UDL is NOT:

Modifying instruction after lesson planning. One of the key ideas of UDL is that it proactively accounts for learner variability. Therefore, creating one lesson for most students and then modifying that instruction for a few is not UDL.

- UDL is NOT just about using

technology. There is a great deal of debate about the relationship between UDL and technology and the two are interrelated. The way the field is currently considering the role of technology in UDL is that the technology is a tool alongside proactive planning. For example, when I consider reading instruction that is proactively meeting the needs of all learners, I will likely plan to use technology to provide options for representation (ex: multimedia) , action and expression (ex: presentation software), and engagement (ex: simulations). In a society where technology is ubiquitous, it is hard to imagine instruction that does not leverage technology, but technology and UDL are not the same things. However, it is still possible to plan reading instruction without these technologies in a manner that still offers multiple means of representation (ex: leveled books), action and expression (ex: dioramas and poetic expressions), and engagement (ex: options for text activities)

- UDL is not an evidence based practice: There is a great deal of research being done that points to the positive effect of the UDL framework and evidence associated with each of the checkpoints, but the UDL framework itself is not an evidence-based practice. Rather, it's a planning framework in which we can embed evidence based practices.
- UDL is not the same as differentiated instruction, although they are very much related.

Differentiated instruction emphasizes how the teacher can modify activities, instruction, assignments, and materials to meet the needs of a wider range of learners. CAST (2013) explains that UDL is an instructional design approach that is broad and encompasses both the instruction (goals, assessments, materials, methods) and the instructional environment from the onset of instructional planning. DI, on the other hand, emphasizes how teachers respond to individual students. Both, in combination, support student success.

Resource: UDL Interactions: Universal Design for Learning and Universal Design. Retrieved from <http://www.udlcenter.org/sites/udlcenter.org/files/UDL-DI%20BRIEFfinal.pdf>

UDL IS:

- An instructional framework in which to embed evidence based practices: If we proactively plan for learner variability using the 3 principles of UDL within that instruction, we should be embedding evidence based strategies and methods. In the reading example above (related to UDL and technology), as students are provided instruction aligned with UDL, teachers are teaching strategies such as paraphrasing and self questioning.
- A flexible way of thinking above learning, the environment, instruction, and assessment. Because we are not only teaching to the middle/"average learner", our instructional planning has to be flexible. We cannot have only

one content delivery method or one way of assessing learning. Therefore, lesson planning becomes more flexible. In later slides, there will be several examples of how this looks in practice.

- UDL is related to differentiation and often uses the same language, which may cause confusion (see above). There are several resources available to support a deeper understanding of the relationship between differentiation and UDL. For example: The National Center on Accessing the General Curriculum (NCAC) has developed a white paper called, “Differentiated instruction and implications for UDL implementation: Effective classroom report” (http://aim.cast.org/sites/aim.cast.org/files/DI_UDL_10.6.14_0.docx)

Slide 84

Acknowledge learner variability

- Once teachers get over the “myth of the average learner”, they start to work on:
 - UDL, Differentiation, Tiered Instruction
- This is sometimes challenging for content teachers.
 - Belief about what students can and can’t do based on labels
 - Belief that they will only teach advanced courses (e.g., AP Physics vs. Remedial Earth Science; Calculus vs. algebra 1)
 - Belief that they will not have students with disabilities in their classes

CAST logo and IDEA logo are visible at the bottom of the slide.

A slide in Part 1 of the PowerPoint describes the need to acknowledge learner variability.

When working with content teachers (like math, science, history teachers), there are sometimes some naïve ideas about what students with and without disabilities can do academically.

- They may have preconceived ideas about what students can and cannot do based on their disability status, socioeconomic status, etc. Many times, we would hear things such as, “If only they were not so low, we could...”
- They often also have naïve ideas about what classes they will teach.

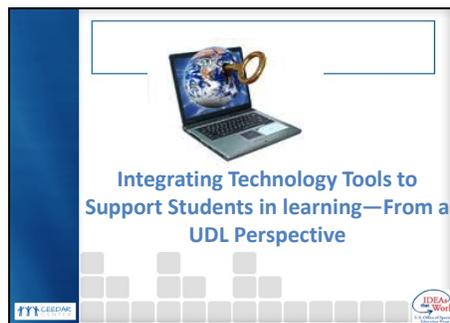
For example, many preservice content teachers think that they will be teaching only advanced content courses. They may not realize that in schools, there are many decisions that go into who teachers which classes and new teachers are often assigned introductory classes.

- Lastly, they often believe that they will not have students with disabilities in their classes because they have little experience with students with disabilities.

Question: What would you do if you were working with a teacher who stated that students with disabilities did not belong in his/her advanced math or science class?

Question: What strategies would you propose to move teachers away from these attitudes about students with disabilities?

Slide 85



Although we previously said that UDL and technology are not the same thing, it is helpful to provide some examples of how technologies can intersect with pedagogy and proactive planning for learner diversity. These next slides provide a few illustrative examples.

Slide 86



Question: What do you think is the relationship between technology and UDL? How do you think technology can facilitate instruction designed through the UDL framework?

Discuss the relationship between technology and UDL using the examples that the students bring up.

The main point is that UDL is more than simply using technology. It's about the pedagogy and planning and the technologies are the tools that help facilitate learning and engagement. The examples that follow do not fall into one of the three principles on their own, but can be examples of all three 3 principles in action. To simplify, we are highlighting them as related to each of the 3 principles in turn.

Slide 87



Here's a word of wisdom from teachers who have implemented UDL in their classrooms: As a new special or general education teacher, you are going to have to learn so many new things: your students' needs and strengths, the curricula, the standards, navigating a new school culture, etc. It is important to remember that as you start implementing UDL, you may want to take an incremental approach that is doable. Because there are not many curricula out there that align well with UDL, there is a lot of teacher work that goes into designing this type of instruction. Rather than trying an "all or nothing" approach that might fail and result in giving up on UDL, consider a realistic approach to planning. That is, learn about different resources, materials, assessments, and technologies with the goal of providing instruction that aligns with the UDL framework, but realize that teaching in

this manner is difficult and will take time to implement well. Perhaps in one unit, focus on assessment practices that align with UDL. The next unit, explore various technologies that might increase engagement.

Slide 88

Multiple Means of Representation

- Options in how students acquire information and knowledge
- LOTS of different ways of presenting information to students
- A few examples....

CEEDAR Center logo in the bottom left and IDEA logo in the bottom right.

Providing multiple means of representation essentially means that students have access to content in different ways. This way, they can learn content through different pathways. For some students, listening to the teacher lecture and reading the textbook provides the needed context to access content. Other students benefit from different representations of content such as through multimedia, simulations, audio books, graphic novels, etc. More representations results in increased likelihood that students will have access to the instructional content. This does not mean that you, as the teacher, needs to have ALL these options ALL the time. It means that you should consider alternative ways of representing content in your planning.

Slide 90

Example: Videos

- Teacher Tube/You Tube
- Khan Academy
- Vimeo
- Fibonacci example
 - Teaching standards related to patterns, sequencing, and relating math to the real world

• <http://vimeo.com/9953368>

ITT

IDEA

Videos are another way to represent content in multiple means. This video about Fibonacci sequence in nature is a great example of how to provide background knowledge and different access points to material.

Let's watch this 3:44 video. After you watch this video reflect on the two areas below and then share out:

- Write down a few mathematical ideas that could be represented through this video.
- Reflect upon what elements of this video can support learning for students with limited background knowledge as well as students with struggle with mathematics.

Slide 91

Multiple Means of Action and Expression

- Different ways of demonstrating understanding

ITT

IDEA

Discussion: How do you typically have to express your understanding of information you learned in class? Do you have preferred ways of demonstrating your understanding?

If the students talk about writing papers, doing group projects, etc., discuss advantages and disadvantages of these different formats.

The main point here is that along with representing information in multiple ways, it is also important to provide students with multiple ways of expressing their understanding. Here, again, there are technology and non-technology based tools that can allow students to express their understanding.

Simulations and Video Games

- PhET interactive simulations
- Gizmos
- Filament Games
- Example: You Make Me Sick!!!
 - Learn about bacteria, viruses, general germs, staying healthy, etc.
- <http://youtu.be/tO7VWBLM7CI>

ITT INTEGRATED TECHNOLOGICAL TRAINING

IDEAS INNOVATIVE DESIGN AND ASSESSMENT

Instructional video games and simulations are increasing in availability and there is a growing body of literature that points towards their use in content instruction to increase engagement and learning.

This slides includes some examples of simulations and instructional video games.

PhET interactive simulations are free interactive, research-based science and math simulations developed at the University of Colorado. These are typically used for higher grades.

Gizmos are math and science simulations typically used in grades 3-12. These are not free but there is a free trial if you are interested in playing around in these to see if they are useful to your preservice program instruction.

In addition to simulations, there is a growing number of instructional video games tied to content standards. For example, Filament Games have games in areas such as science and civics.

Watch the video explaining one game called, *You Make Me Sick!*. In this game, students learn about viruses and bacteria in order to play a game in which they must make someone as sick as possible as fast as possible. They can either engineer their own pathogen or pick from a suite of pathogens. This game also has several cognitive supports that provide hints and background knowledge.

After watching the video: what are your impression of using video games or simulations to demonstrate content

understanding? Is there a place for video games in traditional instruction?

Because video games focus on engagement, they often have many pathways into learning and expressing understanding, as illustrated in this game example. It is important to understand that games and simulations will not replace you as the teacher. They are there to enhance learning and add multiple pathways to learning.

Slide 93



There are also many educational apps available. Given that many schools have invested in mobile devices already, it is helpful to consider how these would fit within the context of UDL-based instructional planning.

Discussion: What kinds of apps do you use? Have you used any apps that support learning? (for example, math games)?

Remember, though, that not all technology is equal. Not all mobile devices are accessible and not all apps result in learning. It is very important to do your homework and reflect upon whether the technology tools/apps under consideration fit within the instruction, have some data to support their use for learning, and actually lead to better representation, expression, and engagement. In one of our early studies, we examined how students used an app for increasing math automaticity with an app game that had students quickly go through math facts. We found that for a significant minority of the students in our study, the pressure of this game led to

frustration and was not a good fit. It was, therefore, not a great tool for allowing these students to express their understanding. They, therefore, would have chosen another tool for expressing understanding of math facts.

In another study, we looked at how students engaged with eBook apps (Kindle, Nook, and iBook). We noticed that although there were many tools built into these that would increase access, the students often didn't use these because they didn't know when to use supports such as highlighting, using tabs, and using the embedded dictionary. Therefore, if we wanted to students to highlight the main ideas and essential details in passages, we needed to not only teach them this strategy, but how to use the technology to do so.

Slide 94

Examples of science apps

Frog dissection: Virtually dissect and explore the inner workings of your frog. Also contains extended content about frogs.

<https://itunes.apple.com/us/app/frog-dissection/id377626675?mt=8>

CEEDAR Idea Work

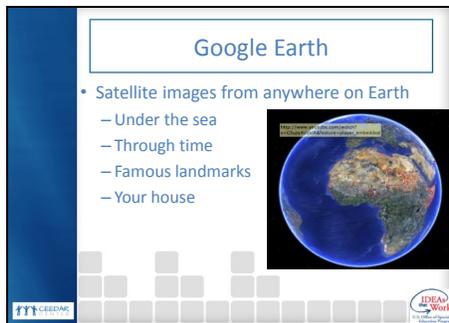
How many of you remember having to do dissection at school? For those that did so, what was that experience like?

Within the UDL framework, one of the critical things that you will do is to think about what barriers to learning students face during instruction. What would be difficult for students with disabilities and other struggling learners? What barriers to learning exist during these types of activities?

There is a lot of debate out there regarding ethics doing dissection in schools. Regardless of where people fall on the debate, for many students, before doing real dissection or in place of real dissection, a virtual dissection is helpful. These experiences provide three dimensional views of the animal

organs as well as information, background knowledge, and multiple access points to the anatomy content. Therefore, they are great tools for providing background knowledge and practice. ***The frog dissection video is available for purchase on itunes.

Slide 95



Google Earth is an example of a global visualization tool. It provides information about the oceans, landscape, landmarks, and even allows you to find your home. There is body of literature that highlights how such technologies can be used to teach data analysis, environmentally literate students, and even learning about the relationships between local and global environments. When learning geography or astronomy, for example, honing in on states, nations, landmarks, and even looking at planets and stars through Google Earth is a great way of integrating technology.

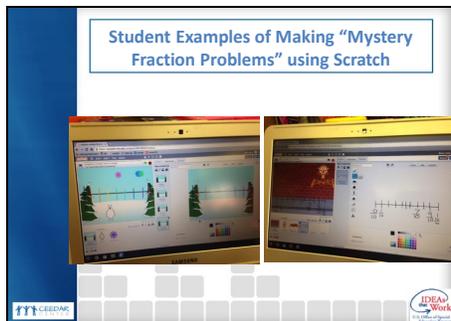
Again, if a known barrier to learning involves spatially understanding the geography, using a tool like Google Earth can increase meaningful engagement.

Slide 96



As you could tell from the previous slides, these technologies and tools do not fall into one clear cut UDL principle. For example, instructional video games allow students to express their understanding but can certainly increase engagement. Below are a few other examples that fit into all three principles but illustrate multiple means of engagement.

Slide 97



Many students struggle with learning fractions. We also know that one strategy that supports students in learning mathematics concepts is going through a sequence of beginning with concrete representations of concepts and accompanying procedures, then transitioning to graphical representations, and then finally to abstract interactions. As a teacher planning through the UDL framework, you can consider how to help transition students from using manipulatives such as counters and number lines to a more abstract representation.

Here is an example of how one third grade teacher did so using Scratch programming. Scratch is a user-friendly tile-based programming software that allows students to do computer programming without knowing sophisticated coding such as Python or Java. Scratch makes use of these tiles that attach, much like lego blocks.

3rd grade students in this example created story problems using number lines and they illustrated their story problems using Scratch programming.

This is an excellent example of how students can have multiple options for demonstrating their understanding and increase engagement because they have choice in how they create their illustrated story problems. Here, the level of sophistication of the story problems as well as the level of programming is different from one student to another, yet they can all engage in their own ways.

You can learn about Scratch at <https://scratch.mit.edu/> and about instruction that integrates Scratch into art, math, science, social studies, etc. at the ScratchED community of practice at <http://scratched.gse.harvard.edu/resources>. Intro video is 1:37.

Slide 98

Important Notes:

- UDL does not replace individualization
- UDL belongs to everyone (general education, special education, students receiving enrichment/gifted services, students with significant disabilities, etc.)

CEEDAR

IDEA Work

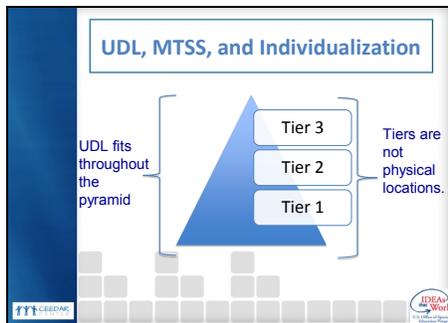
There are a few points that are important to make.

First, although UDL allows us to plan instruction to address the variability we see in today's classrooms, this does not mean that we will not need to individualize instruction for some students. We will always need to provide individualized supports, teach explicit strategies that address the individual needs and IEP goals learners, use specialized assistive technologies, and provide accommodations and modifications for some students with disabilities.

Second, the point of UDL is to provide accessible and engaging instruction to ALL learners. This means that UDL is not for students in one particular category or another. If we plan for

learner variability, instruction will be more enriching for ALL learners.

Slide 99



UDL is appropriate across all tiers within the Multi tiered systems of support (MTSS) framework.

Slide 100

Resources are Available to You!

- UDLinks
 - Free App
 - Maryland State Dept. of Education
- CAST
 - Book Builder
 - iSolveIt
 - Science Writer

CAST UDL BOOK BUILDER

WELCOME! Welcome to the CAST Universal Design for Learning (UDL) Book Builder! Use this site to create engaging digital books that build reading skills for children, ages 3-10.

CEDAR

IDEA

There are many supports out there that can help you design instruction through the UDL framework. One such resource is UDLinks, which was developed through the Maryland State Department of Education. <https://itunes.apple.com/us/app/udlinks/id454517781?mt=8>

The CAST website has a lot of resources as well including free tools such as UDL Book Builder, where you can create your own digital books to support reading/literacy instruction (<http://bookbuilder.cast.org/>), iSolveIt, where students can learn math reasoning

(<http://isolveit.cast.org/home>), and CAST Science writer, which scaffolds students' development of science lab reports (<http://sciencewriter.cast.org/welcome;jsessionid=2D68C28F3AF2E7CB1D66F1588861C509>)

Slide 101

Examples of Lessons and Assessments

- Lessons
- Assessments
- Student work examples

Slide 102

Primary Reading (Poetry) Tic Tac Toe		
Find and read a poem with a peer (have tiered resources)	Read a biography of a poet (e.g., Shel Silverstein). Have tiered books	Write your own acrostic poem
Write a Holiday poem (e.g., mother's day)	Find rhyming words in a poem	Illustrate what is happening in a poem
Interview a poem and provide answers	Find metaphors, similes, & hyperbole, in poems	Write a poem from a different point of view

Tic-tac-toe assignment guides utilize UDL principles of multiple means of representation and multiple means of expression.

Students are required to complete three activities – either in a row, a column, or diagonally.

Slide 103

Secondary Algebra Tic Tac Toe		
You be the teacher: Correct the homework	Watch Khan Academy video & answer 7s	Review worked examples using order of operations
Complete a math extended respond	Create data and then write a word problem using that data	Practice online with algebra tiles
Print out and complete worksheet	Create word problems and illustrate them in Scratch	Complete online algebra game

Handout #12 is a Tic Tac Toe template that teachers can use in their classroom.

Slide 104

Industrial Revolution Tic-Tac-Toe in Practice
<ul style="list-style-type: none">In this video, teachers describe how they use this strategy to engage all learnershttps://vimeo.com/6104437

In this video, you will hear two teachers describe how they use the tic-tac-toe method to assign projects to students for a unit on the industrial revolution.

While you watch this video, think about these questions. We will discuss them afterwards.

- Why do you think the teachers emphasized that it was important to think about the placement of the projects on the Tic-Tac-Toe chart?
- How might you have one rubric to assess all these projects?

There are many other examples of Tic-Tac-Toe activities. This website by Dr. Dave Edyburn has links to several other examples (<https://pantherfile.uwm.edu/edyburn/www/tictactoe.html>)

Slide 105

Interview a Poem Example

- Poem: Harry Potter in 99 Seconds
- https://www.youtube.com/watch?v=y57YHIDP_Y
- K's Poetry Assignment- Interview with a poem
- <https://www.youtube.com/watch?v=0F5nKV0hFO&list=UUtYtE1Uf5uYQNKAXPBtN42w&feature=c4-overview>



In this example, the student chose to “interview a poem” as an option for a project. The teacher allowed students to find a poem, write questions, and then answer them through video. In this example, the student completed this assignment by having her parent interview her with the questions she created. It is rather funny, but exemplifies how students can have autonomy and produce learning products that are flexible and still allow teachers to assess their learning.

Slide 106

Reading Project Options

- Interview a character from your book. Write 10 questions that will give your character an opportunity to discuss feelings, roles, etc.
- Write a diary that one of the story's main characters might have kept before, during, or after the story's events.
- Write a newspaper book review
- Construct a diorama of a main event in the book
- Read a book made into a movie. Compare/contrast book and movie
- Create a comic book or graphic novel version of a book
- Design a book jacket including a blurb, author history, illustrations,
- Retell part of the story from a different point of view
- Make a PPT of the book with summary, comparison of main characters to yourself



Another way to provide options (aside from Tic-Tac-Toe) is to simply provide options for students. This list is from a 5th grade teacher, (Ms. Alyssa Meyer).

Let’s look at all of these. If you were a student in Ms. Meyer’s class, which choices would be most appealing to you? Why?

For students with disabilities who might struggle with reading and writing, which choices may be good options? Why?

Slide 107

Reading/Book Review Assignment

Book Project	4	3	2	1
Comprehension of Text (Cross disability)	Project demonstrates excellent comprehension of text using details from the text and providing detailed examples of setting, events, characters, and literary elements.	Project demonstrates good comprehension of text using details from the text and providing examples of setting, events, characters, and literary elements.	Project demonstrates fair comprehension of text using details from the text and providing few examples.	Project demonstrates poor comprehension of text using details from the text and providing no examples.
Thoughtful Insights (Cross disability)	Project demonstrates rich, well-explained thinking that goes beyond the text through interpretation, connections, and/or synthesis.	Project includes some examples of interpretation, connections, and/or synthesis that go beyond comprehending the text and are explained.	Project includes one or two examples of interpretation, connections, and/or synthesis that does not explain thinking.	Project does not go beyond literal comprehension of the text.
Writing Skills	Project demonstrates excellent writing skills, including low or no conventional errors.	Project demonstrates good writing skills, including some conventional errors.	Project demonstrates fair writing skills, including several conventional errors.	Project demonstrates poor writing skills with many conventional errors.
Quality of End Product	Project does an excellent job adhering to directions and is highly visually appealing. It looks like the author took some pride in it.	Project does a good job adhering to directions and is visually appealing. It looks like the author took some pride in it.	Project does a fair job adhering to directions and is somewhat visually appealing. It looks like parts of the text have been done in a hurry.	Project does a poor job of adhering to directions and lacks visual appeal. It looks like the student just wanted to get it done and didn't care what it looked like.



Just like the teachers who taught about the industrial revolution, Ms. Meyer created one rubric with which all the reading/book review assignments could be assessed.

Let’s look at this rubric and pick some choices from the list. Does this rubric allow Ms. Meyer to assess all the projects on the previous slide?

Slide 108

Diorama Example

- Book: Under the Blood Red Sun
- Chosen Assignment: Create a Diorama & write a descriptive statement



In this example, Ms. Meyer asked the students to pick a book with the following criteria: Historical fiction from the World War II era. They could use the rubric in the previous slide.

This student picked a critical scene from the book, Under the Blood Red Sun and illustrated it in a Diorama. She picked the scene in which the Japanese American family decided to bury their Japanese artifacts in their back yard for fear that these items would implicate them as enemies.

Slide 109

Song Example

- Book: Princess Diaries
- Assignment: Write and perform a song



In this example, the student decided to compose a song describing the plot of the book, The Princess Diaries from the prospective of the main character, Mia. Although it's funny to listen to this song, it clearly illustrates that the student understands the main ideas of the story. This particular student has significant fine motor issues so writing a book report would have produced a much less detailed product.

What do you think about the option for creating a diorama or song instead of a book report?

Slide 110

Applying UDL

Introductory UDL assignment:

For this assignment, you will investigate instruction and curricular materials in your practicum setting to:

- Assess whether that instruction was consistent with UDL
- Make recommendations for how to teach this content through the UDL framework

You may present your information in a variety of formats including:

- A traditional paper
- PowerPoint/Keynote/Prezi, etc. presentation
- Poster
- Multimedia presentation such as a short video

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In this assignment, you will observe instruction and pay attention to the instructional delivery method, materials, and assessments. Evaluate whether that instruction is consistent with the UDL framework. What aspects were consistent? What aspects were not?

Then, think about how you might teach that lesson in a manner that aligns with the UDL framework. You can present your findings in many ways including through multimedia presentation, a traditional paper, a poster, or other method that allows you to express your understanding of UDL in practice.

Slide 111

Assignment continued

Please provide the following

Curriculum Material Used by the Teacher: (teachers' manual lessons, chapter, book, technologies, etc.)

- Content area
- Grade level
- Publisher
- Year of publication
- Description of the materials you reviewed (e.g., teacher's manual, workbook, textbook, DVD, etc.)

UDL Features within instruction and the Curriculum Materials: Please describe how well the principles of UDL were evident within the curriculum that you reviewed.

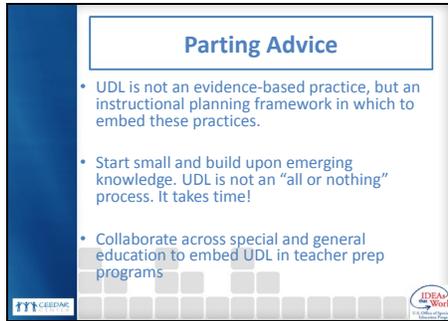
- Describe the UDL features within the instruction. If there were no UDL features present, please indicate and explain this. Remember to include ALL three UDL principles.
- Describe at least 3 UDL features (one for each of the 3 UDL principles) you would include when planning this instruction.

ITT IDEAO

In your description, please provide a description of the materials that were used as well as the teacher's instructional delivery. For example, describe the content area, grade level, materials (and publisher), etc.

See Handout #13

Slide 112



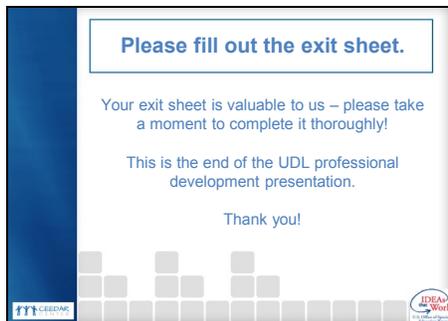
Parting Advice

- UDL is not an evidence-based practice, but an instructional planning framework in which to embed these practices.
- Start small and build upon emerging knowledge. UDL is not an “all or nothing” process. It takes time!
- Collaborate across special and general education to embed UDL in teacher prep programs

CEEDAR logo and IDEA Work logo are visible at the bottom.

My parting words are:

Slide 113



Please fill out the exit sheet.

Your exit sheet is valuable to us – please take a moment to complete it thoroughly!

This is the end of the UDL professional development presentation.

Thank you!

CEEDAR logo and IDEA Work logo are visible at the bottom.

**There is a handout (#14) you can use for an exit sheet.

Slide 114



Illustration of a diverse group of people standing together, some with arms raised in celebration. A large empty rectangular box is positioned above the group.

CEEDAR logo and IDEA Work logo are visible at the bottom.