We are more alike than different| How UDL can change the way we think about learning

Lindsay E. Jones – ljones@cast.org

November 9, 2023

Use this to Access the Presentation:

http://bit.ly/LJCASTIreland23

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Goals for Today

- Understand the **Origins of UDL**
- Examine the Science of **Learner Variability**
- Design to Enhance **Equity & Efficiency**
- Consider the **Power of Policy**

Take care of you.

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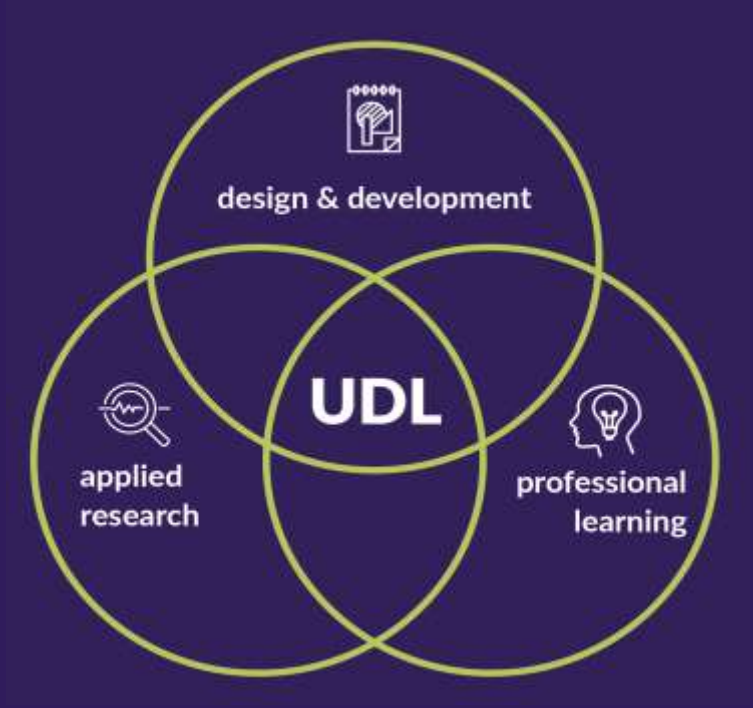
A little about me …

2015

2023

A little bit about CAST …

CAST leads, inspires and convenes a global community to design equitable, inclusive learning experiences using our Universal Design for Learning framework.



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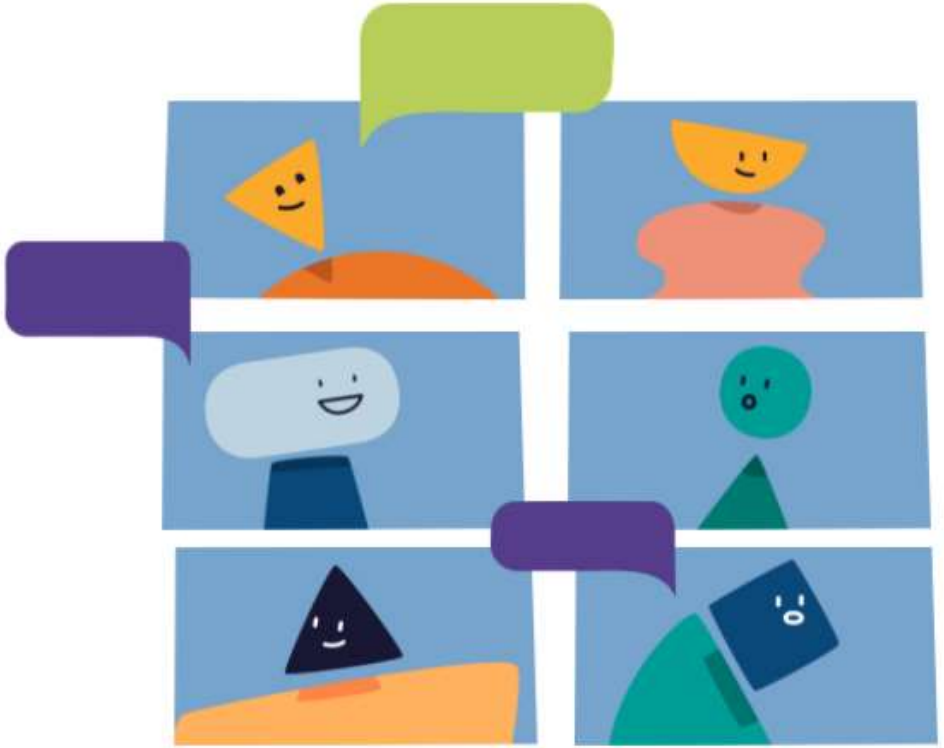
Tell me a bit about you … are you a

Parent/Caregiver

Teacher/Specialists

School Leaders

Policy Maker



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(1) Origins of UDL

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CAST – 1984

David Rose

Anne Meyer

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Theory: The Barrier is in the Environment

Learners aren’t broken, learning environments aren’t well designed.

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The Barrier is in the Environment

"When a flower doesn't bloom,
you fix the environment in which it grows,
not the flower."
-Alexander Den Heijer

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1984

First year the personal computer was available

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It worked!

Started working in a clinic with 9 students they called the Pioneers.

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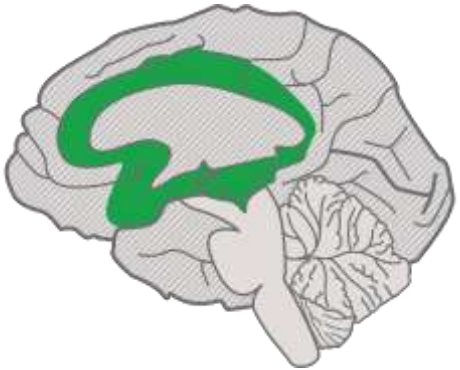
UDL: Informed by 3 Fields

Architecture

Brain Science



Technology

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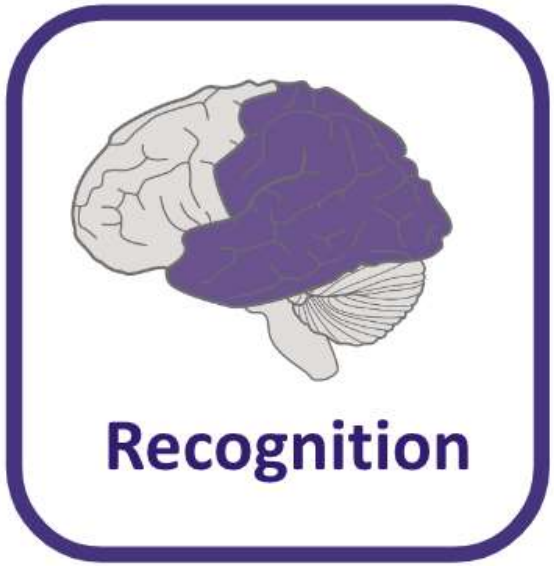
UDL: A Model based on 3 Brain Networks



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The Learning Networks

Affective Networks
The “Why” of Learning

Provide multiple means of Engagement

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

How students will engage?

Recognition Networks
The “What” of Learning

Provide multiple means of Representation

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

How students will perceive?

Strategic Networks
The “How” of Learning

Provide multiple means of Action & Expression

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

How students will act on their understanding?

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Universal Design for Learning (UDL) is an approach to improve and optimize teaching and learning for *all* by setting clear, **rigorous goals**; **anticipating barriers**; and **proactively designing** to minimize those barriers.

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The UDL Foundational Concepts:

The barrier is in the environment, not the learner.

Variability is the norm.
It is contextual.
It can be planned for.

The goal of UDL is expert learning

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(2) Science of Learner Variability

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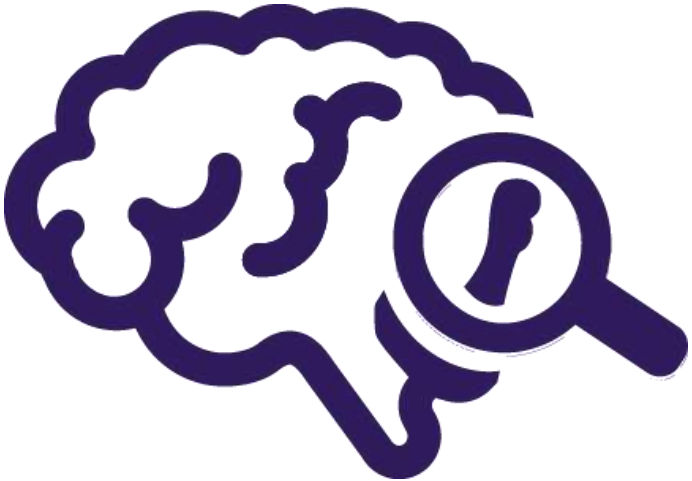
The UDL Foundational Concepts:

Variability is the norm

Variability is the norm.



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"Variability is the dominant feature of the nervous system. Like fingerprints, no two brains are alike".

There is no such thing as an average brain.

UDL and the Learning Brain, CAST 2018

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The Old View of the Brain

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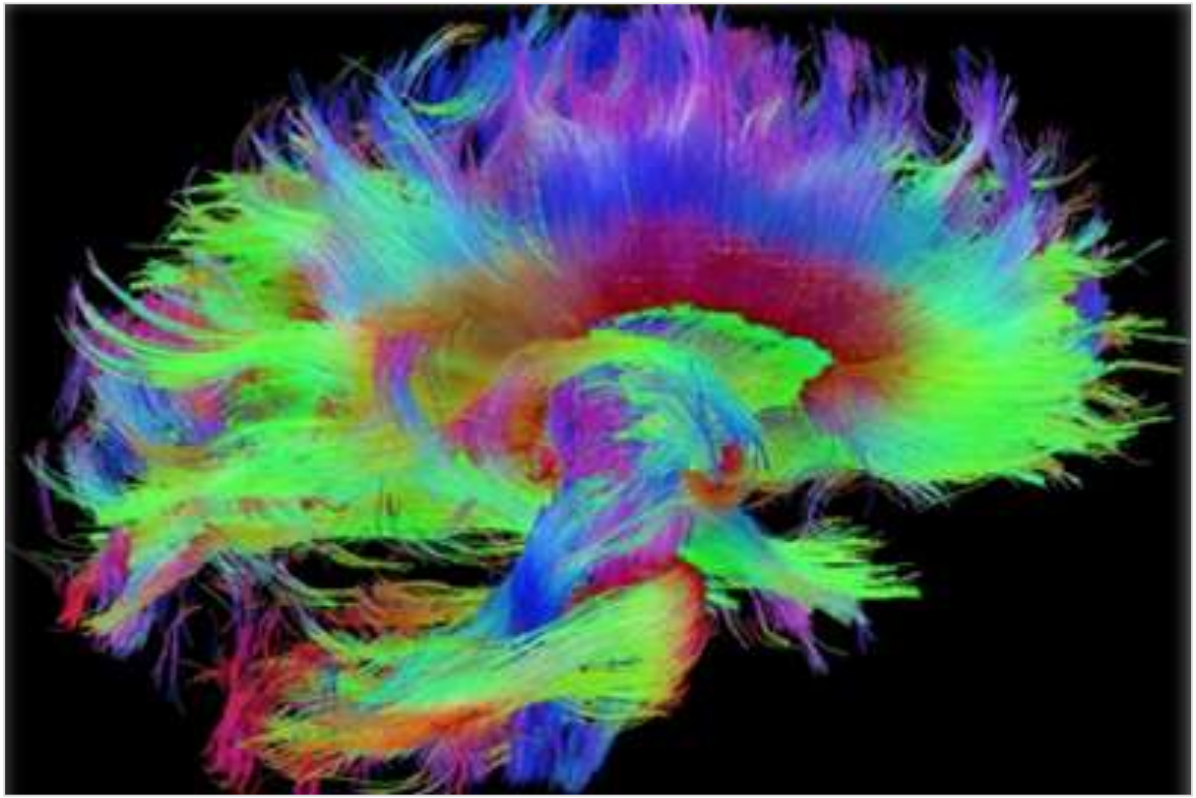
The New View of the Brain



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“ ‘Variability’ is the term used to describe just how unique and varied our brains are. No two learners activate the same pathways in the brain.”

Posey & Novak, 2020

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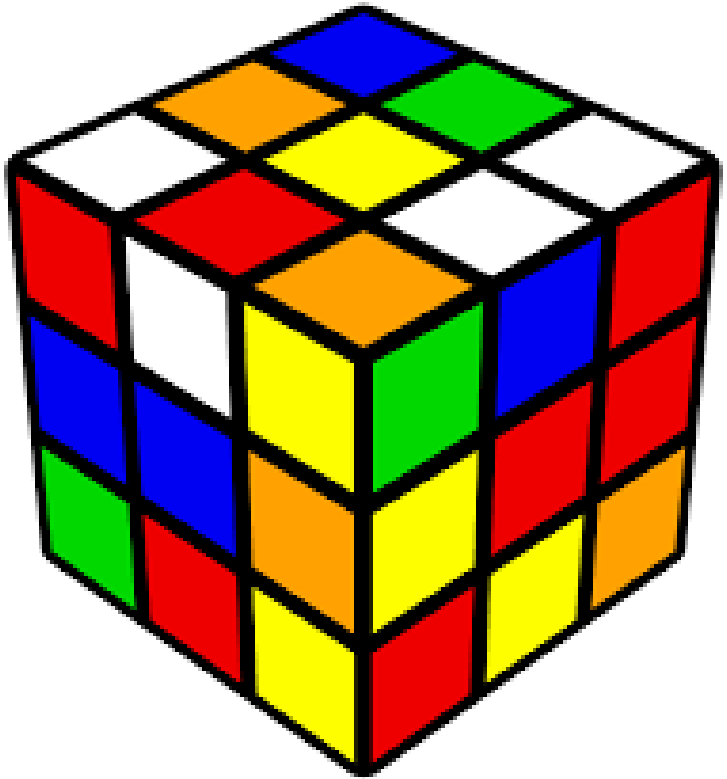
Rubik’s Cube

There are an infinite number of ways to solve a Rubik’s cube.



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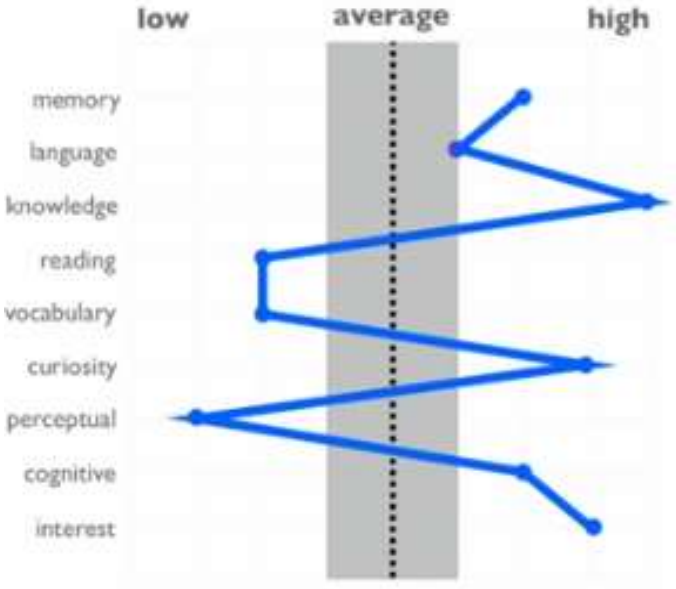
Dimensions of Learner Variability

- Interest
- Perception
- Language
- Physical Navigation
- Executive Function Skills



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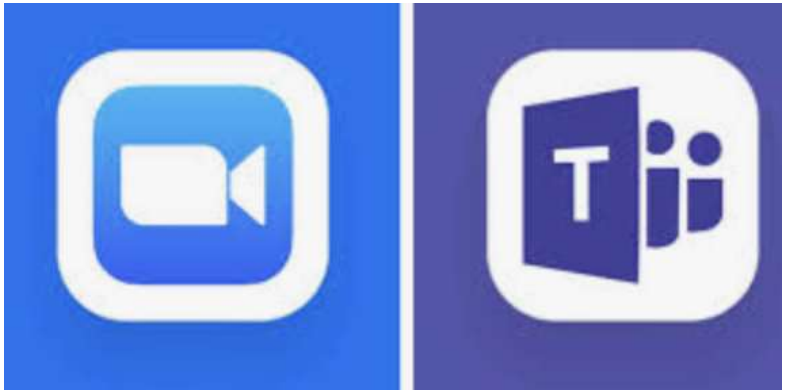
Context Matters

In some ways …

Disability is contextual.

Identity and social context shape our reactions to the challenges we face.



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The UDL Foundational Concepts:

We can design for variability

Variability is predictable in learning and **can** be designed for.

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(3) Design to Enhance Equity & Efficiency

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Every system is perfectly designed to get the results it gets.

W. Edwards Deming

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Equity

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Equality, Equity, and UDL

Equality

Equity

UDL

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Universal Design:
Necessary for some, good for all.

Automatic doors

Curb cuts

Easy-grip tools

Closed captioning

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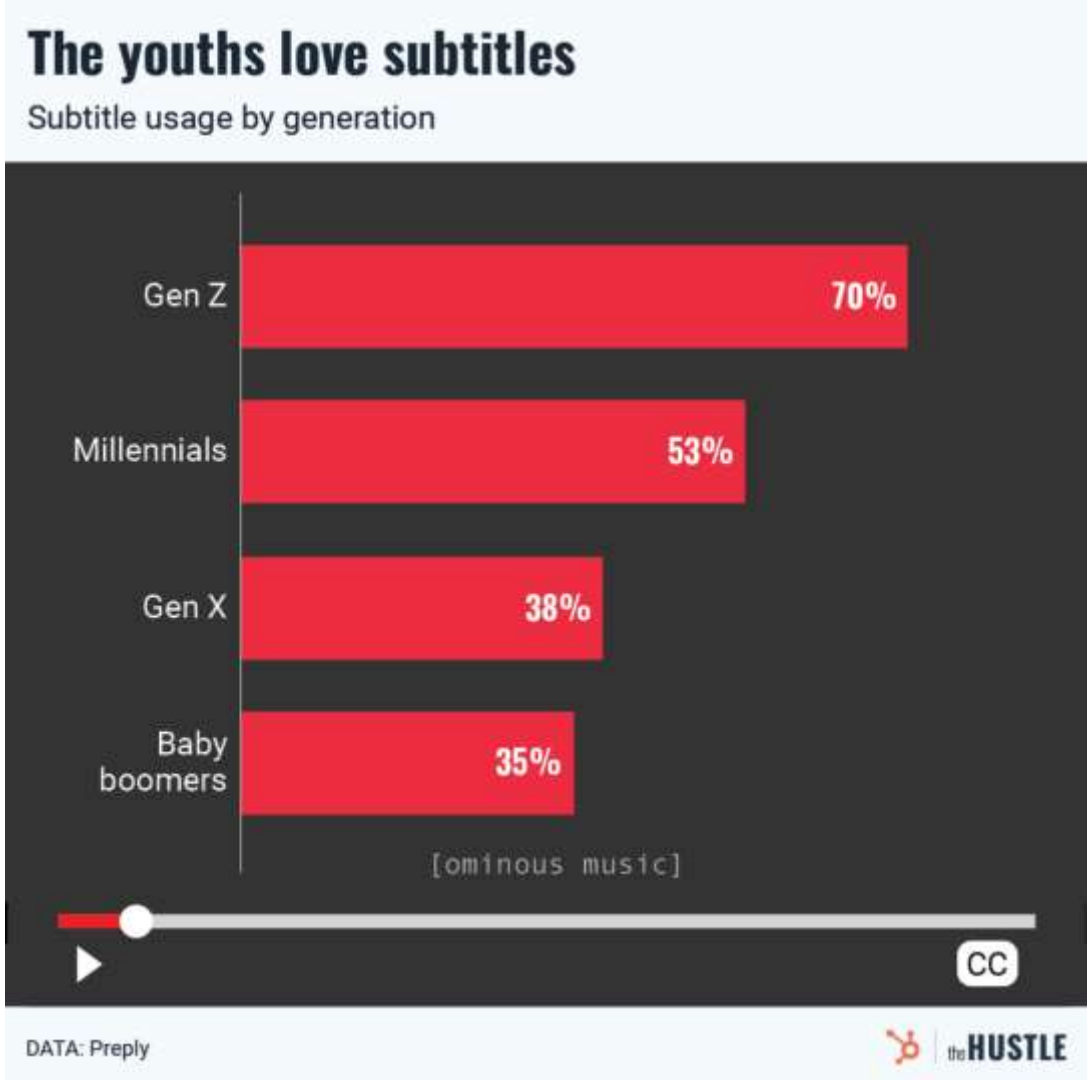

Hustle Magazine,
Rob Litterst,
Sept. 20, 2022

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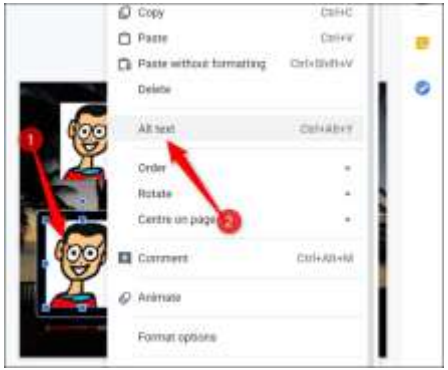
In the Classroom

Necessary for some, good for all.

Customizable digital text



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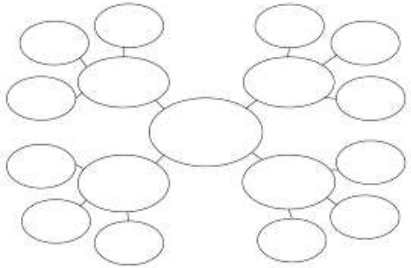

Graphic organizers

Closed captioning

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UDL Design Process Steps

Set Clear, Rigorous Goals

Anticipate Barriers

Design Options

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Areas to Consider when Anticipating Barriers

Materials	Methods	Assessment	Environment
How is the content being **represented**?	How is the content being **delivered**?	How is the learning being **demonstrated**?	How is the **climate/culture** supportive of the learning?

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Areas to Consider when Anticipating Barriers

Materials-What	Methods-How	Assessment	Environment
Readings / Texts Videos Audio Manipulatives Digital Tools Online Platforms	Lecture Discussion Reading Investigations Inquiry Online Platforms	Written Oral Reading Visual Online / Digital	Protocols Routines Expectations Physical Space

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The Language of UDL

Restate the **barrier as being in the design** not the learner.

From: This student did poorly because she couldn't read well enough to learn the content.

To: The student did poorly because the lesson required her to read in order to learn the content.

From: Ella can't pass math because she can't sit still.

To: Ella can't pass math because the lessons require her to sit still.

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Efficiency

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Excited to throw a dinner party!

What's your goal?

- To see your friends!

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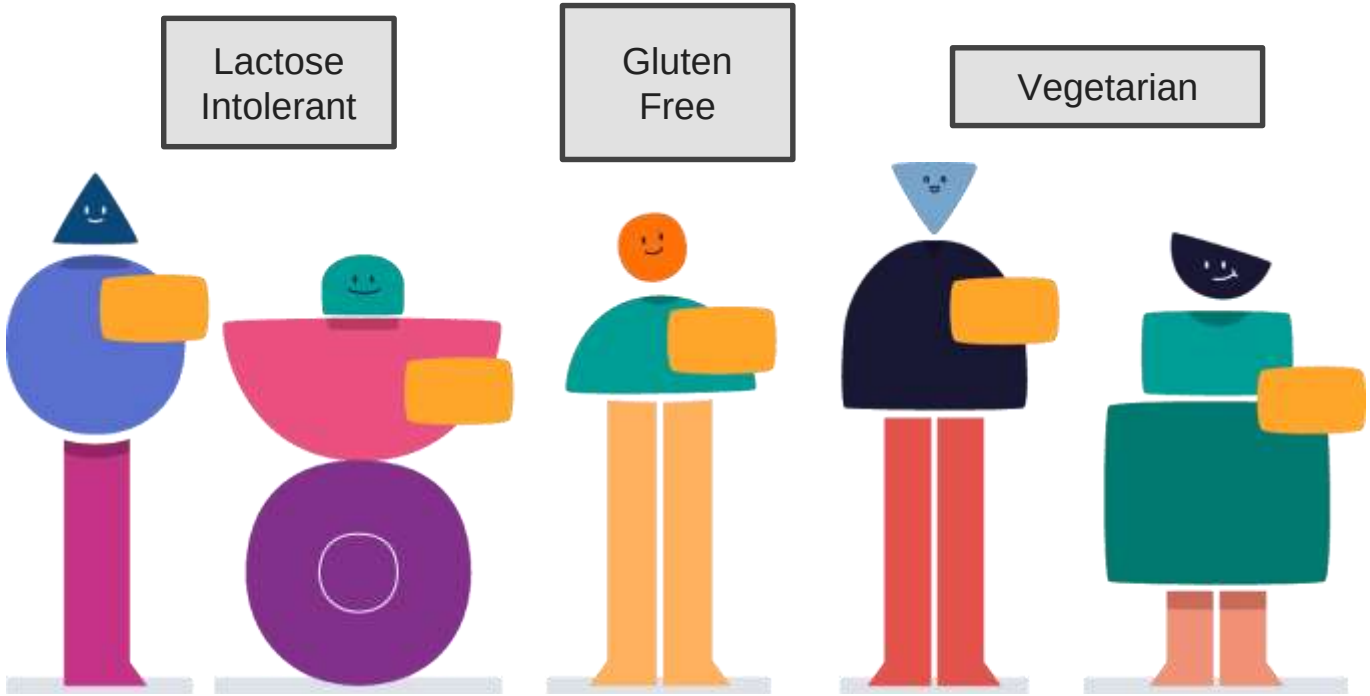
Variability in your Guests



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Planning in Advance

Proactive Buffet!

Here the food doesn’t get in the way of the fun.

Your goal matters

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Architecture Now:
Universal Design (UD)

Reflect and Share:

- Who will use the ramp?
- Why are the handrails important?
- Who else may benefit from this design?

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You should never be ashamed to admit you have been wrong. It only proves you are wiser today than yesterday.

Jonathan Swift

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Case Study - Teachers

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Research question

In what ways, if at all, is learning about UDL and applying it to practice serving to **promote teachers' sense of agency**?

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Design of the New Hampshire Network

- 762 participants
- 66 Schools
- Job-embedded professional learning:
  - Instructional rounds, lesson design studios, classroom video analysis, and looking at student work
- Online learning modules
- Implementation and Coaching Academy
- Conferences

Findings

UDL offers teachers a sense of "permission" to teach in new ways

Teachers leverage UDL to:

1. **Validate** learner-centered approaches that may not align with colleagues' more traditional approaches
2. **Gain confidence** in their pedagogical commitments
3. **Hand over control** to students

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Teach students how to learn,

not just what to learn.

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Artificial Intelligence: David Touretzky

Q: Why should we teach kids about AI?

A: It's important that kids understand AI because they're growing up with it already. It's not in their future, it's their current life. By the time they go to school they've spent two years talking to Alexa.

9/18/23 – Kindergarteners Already Use AI, *Carnegie Mellon News*, Caroline Sheedy

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(4) Power of Policy

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UDL in US Policy Over Time

Federal Law

1965 – Every Student Succeeds Act (ESSA)
1975 – Individuals with Disabilities in Education Act

33 YEARS LATER

2008 – Higher Education Act – **UDL included**

TODAY – UDL is also in our General Education Law (ESSA), and our Career and Technical Education Law (Perkins).

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UDL in Ireland's national curriculum

"Subject specifications and short courses developed by NCCA **will be designed to be as universal as is feasible**, providing meaningful and valuable learning opportunities for students from all cultural and social backgrounds and from a wide variety of individual circumstances"

(DES, 2015, p.26)

Inclusive education and diversity.

Inclusive education provides for equity of opportunity and participation in children's learning. **Inclusive education celebrates diversity and responds to the uniqueness of every child.**

(DES, 2023, p.6)

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UDL Globally

UN Sustainable Development Goal

Learners with disabilities represent a significant percentage of the 387 million primary-age children around the world who are unable to read, write, or do math. **The human and dollar cost of this exclusion is significant.** Countries lose billions of dollars of potential income when people with disabilities are not educated or working.

--*Toolkit for International Education Stakeholders, UDL to help all children read*

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Reflect

What resonates with you?

What questions do you have?

What surprised you?

What's an action you can take?

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Thank you!

Lindsay E. Jones / ljones@cast.org / @LD_Advocate

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