

Instructional Strategies to Address the
Diverse Needs of All Students

Universal Design For Learning (UDL) Principles and Guidelines

Dimitris Zisimopoulos, PhD



EQUALITY=SAMENESS

Giving everyone the same MEANS

It only works if everyone starts from the same starting point



EQUITY=FAIRNESS

Giving everyone ACCESS to the same opportunities.

We must first ensure equity before we can enjoy equality



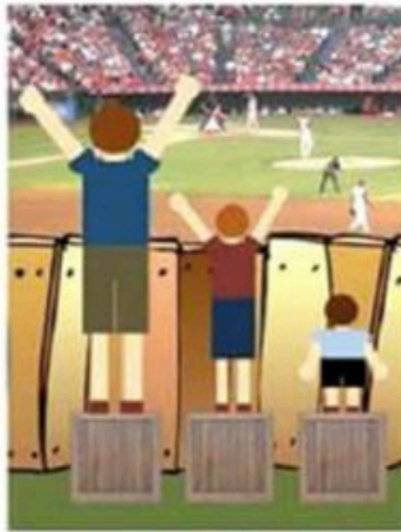
JUSTICE

The systemic barrier
(**environmental, institutional, economic, attitudinal**) have been removed

But, how do we ensure justice??



Accessibility and Universal Design for Learning



Equal, static instruction.
(c.f. "Traditional Instruction")



Equitable, support based on student need.
(c.f. "accommodations and modifications")

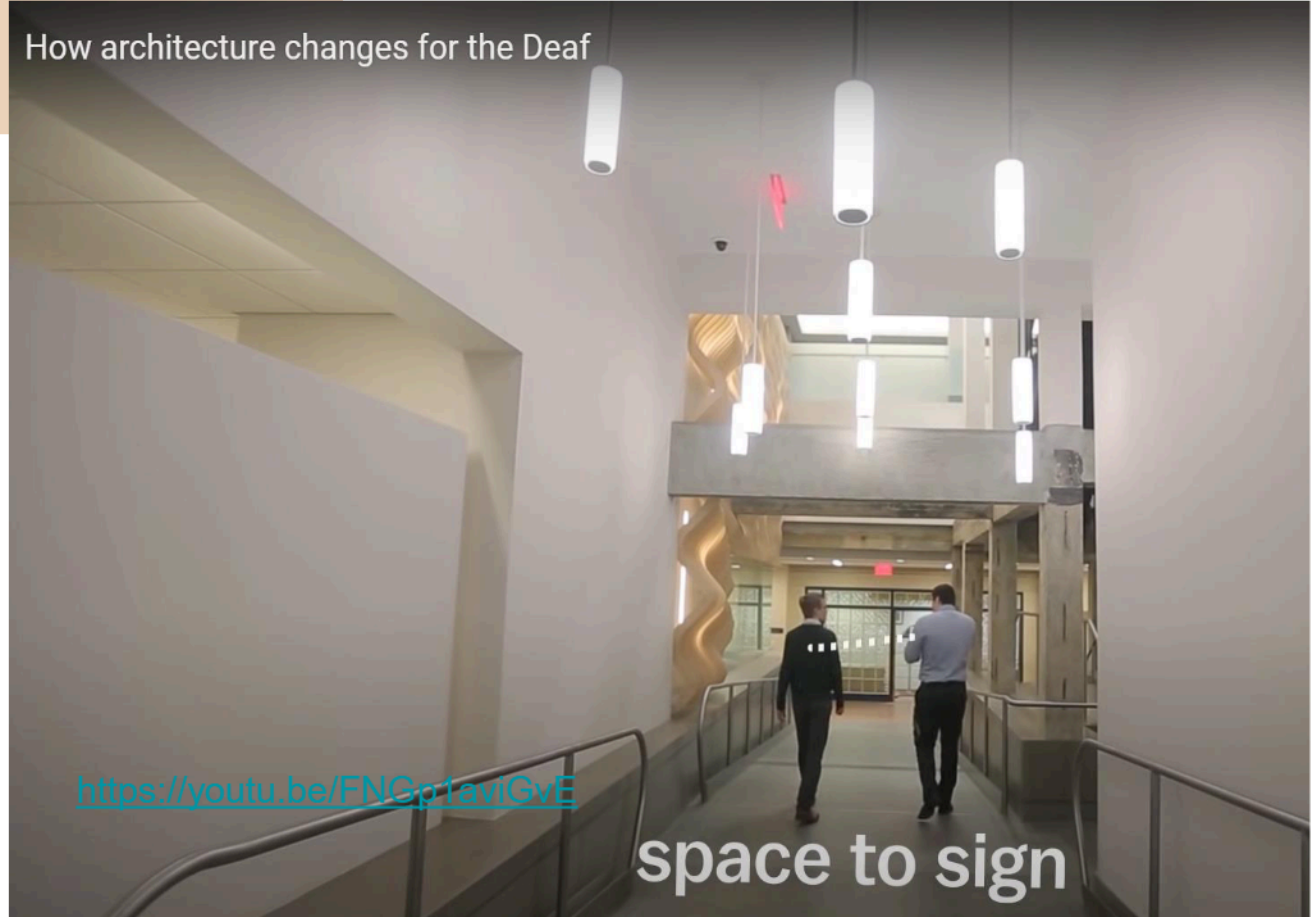


Flexible learning experiences, such that variable learners have access. (c.f. UDL)

- UDL aims to **change the design of the environment rather than to change the learner**.
- When **environments are intentionally designed to reduce barriers**, all learners can engage in rigorous, meaningful learning.

Universal Design in Architecture

How architecture changes for the Deaf



<https://youtu.be/FNCp1aviGvE>

space to sign

The Principles of

Universal Design

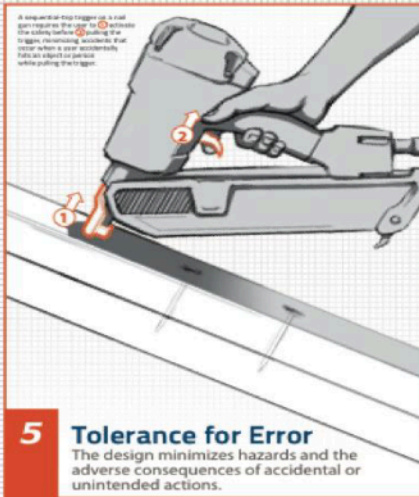


Powered chair with controls is convenient for all shoppers, especially if aisles are full.

1 Equitable Use

The design is useful and marketable to people with diverse abilities.

A sequential trip trigger on a car door requires the user to 1) depress the safety surface 2) push the trigger, releasing the door. If the car door is not correctly held, the door will not open, preventing the user from pulling the trigger.

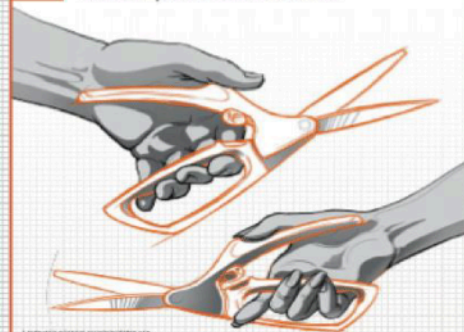


5 Tolerance for Error

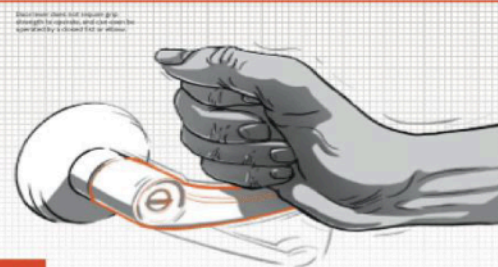
The design minimizes hazards and the adverse consequences of accidental or unintended actions.

2 Flexibility in Use

The design accommodates a wide range of individual preferences and abilities.

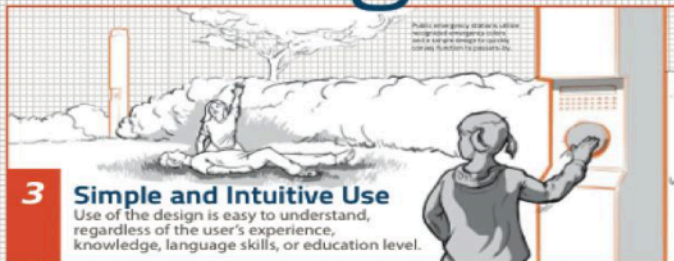


Large grip scissors accommodate use with either hand and allows alternation between the hands in highly repetitive tasks.



6 Low Physical Effort

The design can be used efficiently and comfortably and with a minimum of fatigue.



Public emergency distress button designed to be used by anyone, even those lying on the ground, to call for help.

3 Simple and Intuitive Use

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or education level.



4 Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Small bumps on a car phone keypad indicate which buttons are without requiring the user to look at the keypad.



Small bumps on a car phone keypad indicate which buttons are without requiring the user to look at the keypad.

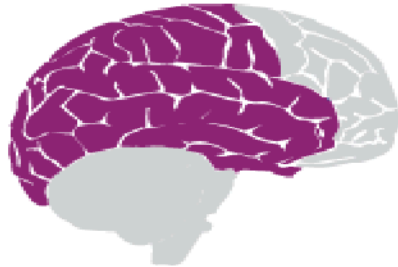
7 Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Universal Design for Learning (CAST, 2018)

Recognition Networks

The "what" of learning



How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.



Present information and content in different ways

**More ways to provide
Multiple Means of
Representation**

Strategic Networks

The "how" of learning



Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.

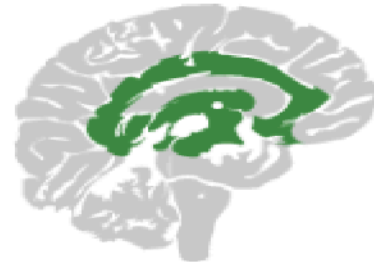


Differentiate the ways that students can express what they know

**More ways to provide
Multiple Means of Action and
Expression**

Affective Networks

The "why" of learning



How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.



Stimulate interest and motivation for learning

**More ways to provide
Multiple Means of
Engagement**



Present information and
content in different ways

More ways to provide
**Multiple Means of
Representation**

(WHAT)



Differentiate the ways
that students can express
what they know

More ways to provide
**Multiple Means of Action and
Expression**

(HOW)



Stimulate interest and
motivation for learning

More ways to provide
**Multiple Means of
Engagement**

(WHY)

ACTiViTY



How do you perceive
the three principles?
Provide an example
for each one.

Think-Pair-Share

UDL Guidelines

The Universal Design for Learning Guidelines

Provide multiple means of Engagement

Affective Networks
The "WHY" of Learning



Provide multiple means of Representation

Recognition Networks
The "WHAT" of Learning



Provide multiple means of Action & Expression

Strategic Networks
The "HOW" of Learning



CAST | Until learning has no limits™

Access

Provide options for Recruiting Interest ⁽⁷⁾

- Optimize individual choice and autonomy (7.1)
- Optimize relevance, value, and authenticity (7.2)
- Minimize threats and distractions (7.3)

Provide options for Perception ⁽¹⁾

- Offer ways of customizing the display of information (1.1)
- Offer alternatives for auditory information (1.2)
- Offer alternatives for visual information (1.3)

Provide options for Physical Action ⁽⁴⁾

- Vary the methods for response and navigation (4.1)
- Optimize access to tools and assistive technologies (4.2)

Build

Provide options for Sustaining Effort & Persistence ⁽⁸⁾

- Heighten salience of goals and objectives (8.1)
- Vary demands and resources to optimize challenge (8.2)
- Foster collaboration and community (8.3)
- Increase mastery-oriented feedback (8.4)

Provide options for Language & Symbols ⁽²⁾

- Clarify vocabulary and symbols (2.1)
- Clarify syntax and structure (2.2)
- Support decoding of text, mathematical notation, and symbols (2.3)
- Promote understanding across languages (2.4)
- Illustrate through multiple media (2.5)

Provide options for Expression & Communication ⁽⁵⁾

- Use multiple media for communication (5.1)
- Use multiple tools for construction and composition (5.2)
- Build fluencies with graduated levels of support for practice and performance (5.3)

Internalize

Provide options for Self Regulation ⁽⁹⁾

- Promote expectations and beliefs that optimize motivation (9.1)
- Facilitate personal coping skills and strategies (9.2)
- Develop self-assessment and reflection (9.3)

Provide options for Comprehension ⁽³⁾

- Activate or supply background knowledge (3.1)
- Highlight patterns, critical features, big ideas, and relationships (3.2)
- Guide information processing and visualization (3.3)
- Maximize transfer and generalization (3.4)

Provide options for Executive Functions ⁽⁶⁾

- Guide appropriate goal-setting (6.1)
- Support planning and strategy development (6.2)
- Facilitate managing information and resources (6.3)
- Enhance capacity for monitoring progress (6.4)

Goal

Expert learners who are...

Purposeful & Motivated

Resourceful & Knowledgeable

Strategic & Goal-Directed

Time to visit the Padlet!

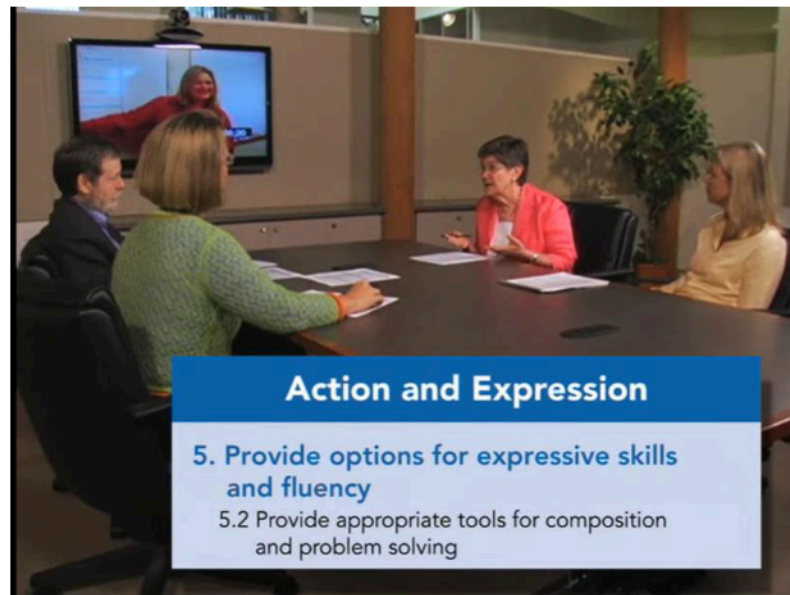


Universal Design for Learning (UDL) in Practice



UDL Guidelines in Practice: Grade 1 Maths

<https://youtu.be/KuTJJQWnMaQ>



UDL Guidelines in Practice: Grade 6 Science

<https://youtu.be/dTxFYf50l-4>

Universal Design for Learning (UDL) in Practice



UDL Guidelines in Practice: Grade 5 Language Arts
<https://youtu.be/zE8N8bnllgs>

UDL principles and the four main curricular components

How do I apply the principles to each component?

