
UDL
Learning
Universal
Design
learning
networks
learners
students
provide
Multiple
means
alternatives
tasks
customize
teaching
Universally-designed
Gathering
knowledge
dimensions
hopes
know
left
educators
letters
representation
Recognition
opportunity
express
see
math
interests
engagement
challenged
classrooms
tomorrow
three
words
Affective
Flexible
finally
problem
essay
media
brain individual
Writing
action
multiple
interested
motivated
appropriately
therefore
ways
performing
makes
author's
ever
help
identify
curriculum
categorize
principles
Strategic
learn
motivate
hear
always
love
read
varieus
Identifying
recognition
solving
offers
behind
Planning
expression
excited
engaged
differences
organize
alive
challenge
today's
easier
tap
acquiring
ideas
CAST
bringing
following
Imagine
information
strategic
affective
demonstrating
give
digital

# UDL:
# USING INCLUSIVE DESIGN TO REDUCE BARRIERS TO LEARNING

16 May 2025

**Zach Petrea, Ed.D.**

*Professor of English*

*Heartland Community College*

zach.petrea@heartland.edu

# ENGAGEMENT

Raise Hand

Chat

Join at menti.com | use code 4986 7070

Mentimeter

# Instructions

Go to

**www.menti.com**

Enter the code

**4986 7070**

Or use QR code

TV

Menti

UDL: Using Inclusive De...

Choose a slide to present



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Mentimeter

# How long have you been a therapist?

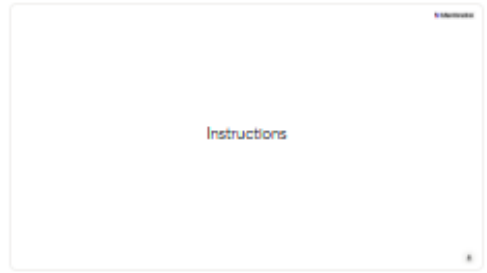
| 0 | 0 | 0 | 0 |
|---|---|---|---|
| 0-1 year | 2-5 years | 6-10 years | 11+ years |

TV

Menti

UDL: Using Inclusive De...

Choose a slide to present





Professor of English

20 years teaching


B.S. in Psychology & English

M.S. in English Studies

Certificate in Universal Design: Technology Integration

Landmark College is the only accredited college in the United States designed exclusively for students with LDs

Ed.D. in Learning Design

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Mentimeter

In **1 or 2 words**, how do you feel about the teaching aspects of instructional trainings?


TV

Menti

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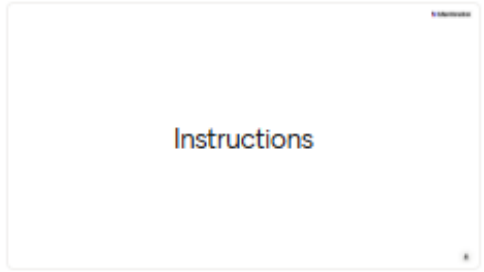
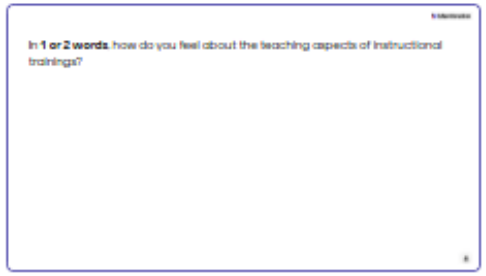
Choose a slide to present







# TODAY'S GOALS

NEURODIVERSITY

SELF-REGULATION

UNIVERSAL DESIGN


# GOAL SIMPLIFIED:

**Instruction = designing learning experiences**

# DESIGN LEARNING EXPERIENCES

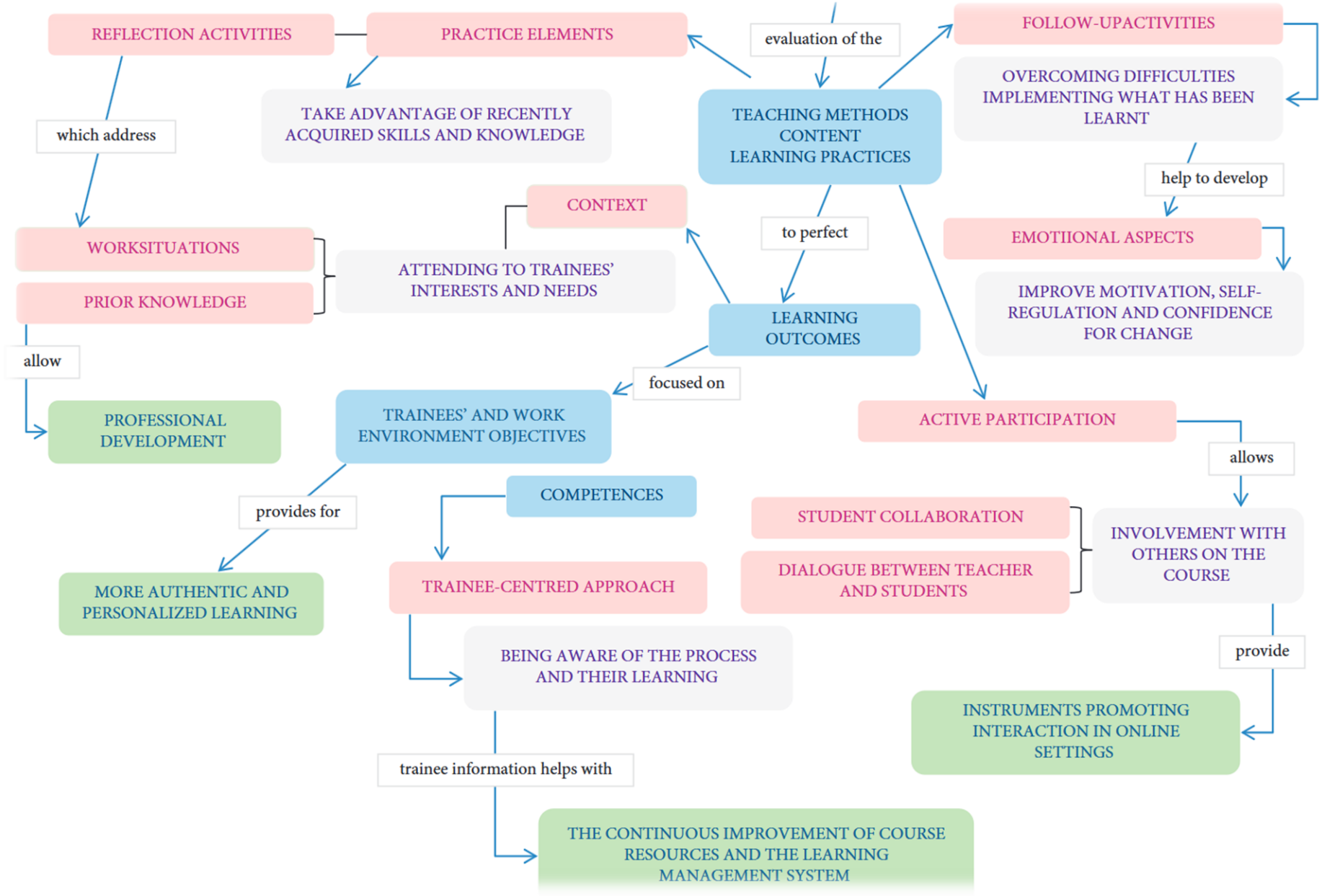
Content Knowledge

\+

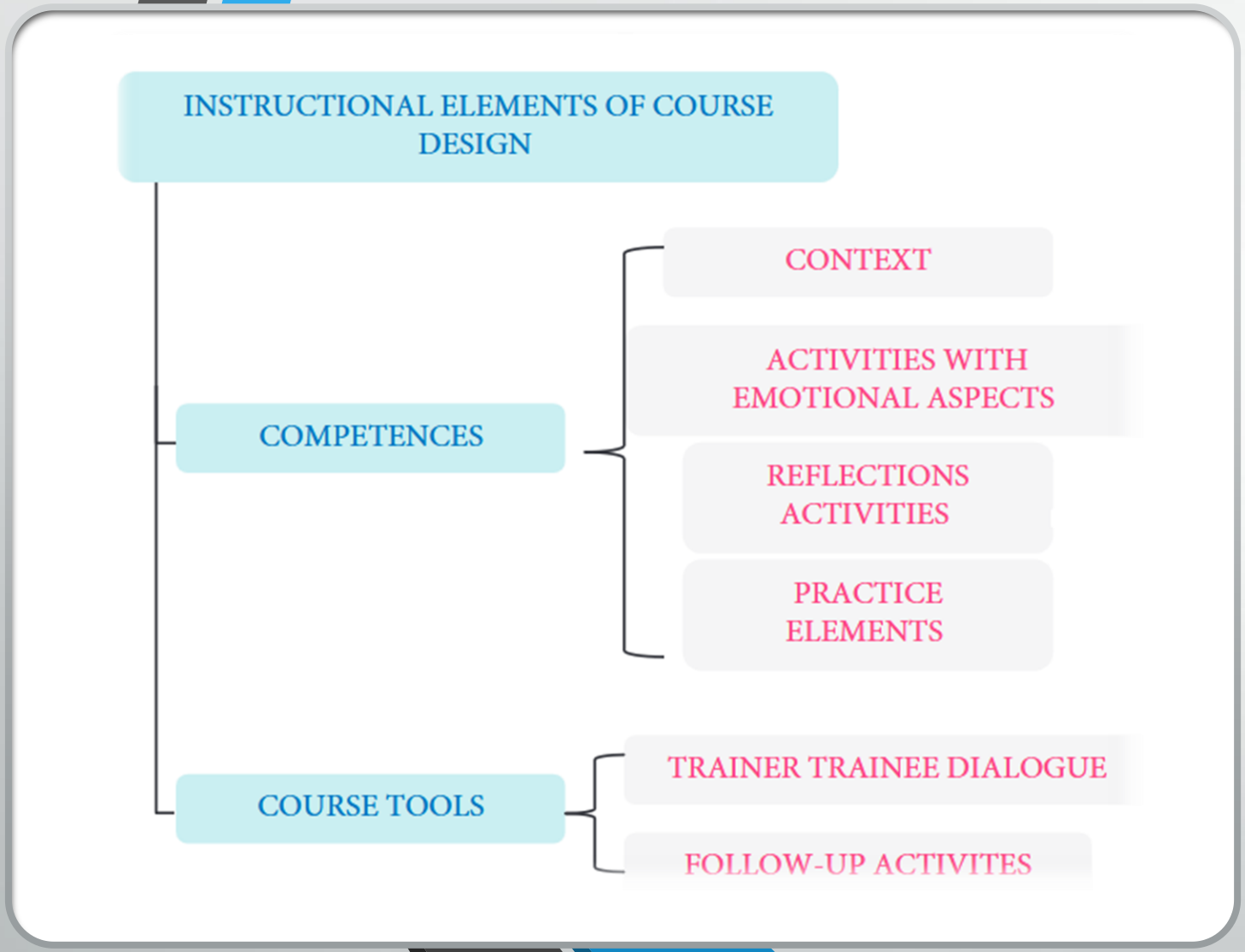
Pedagogy

=

STUDENT EXPERIENCE

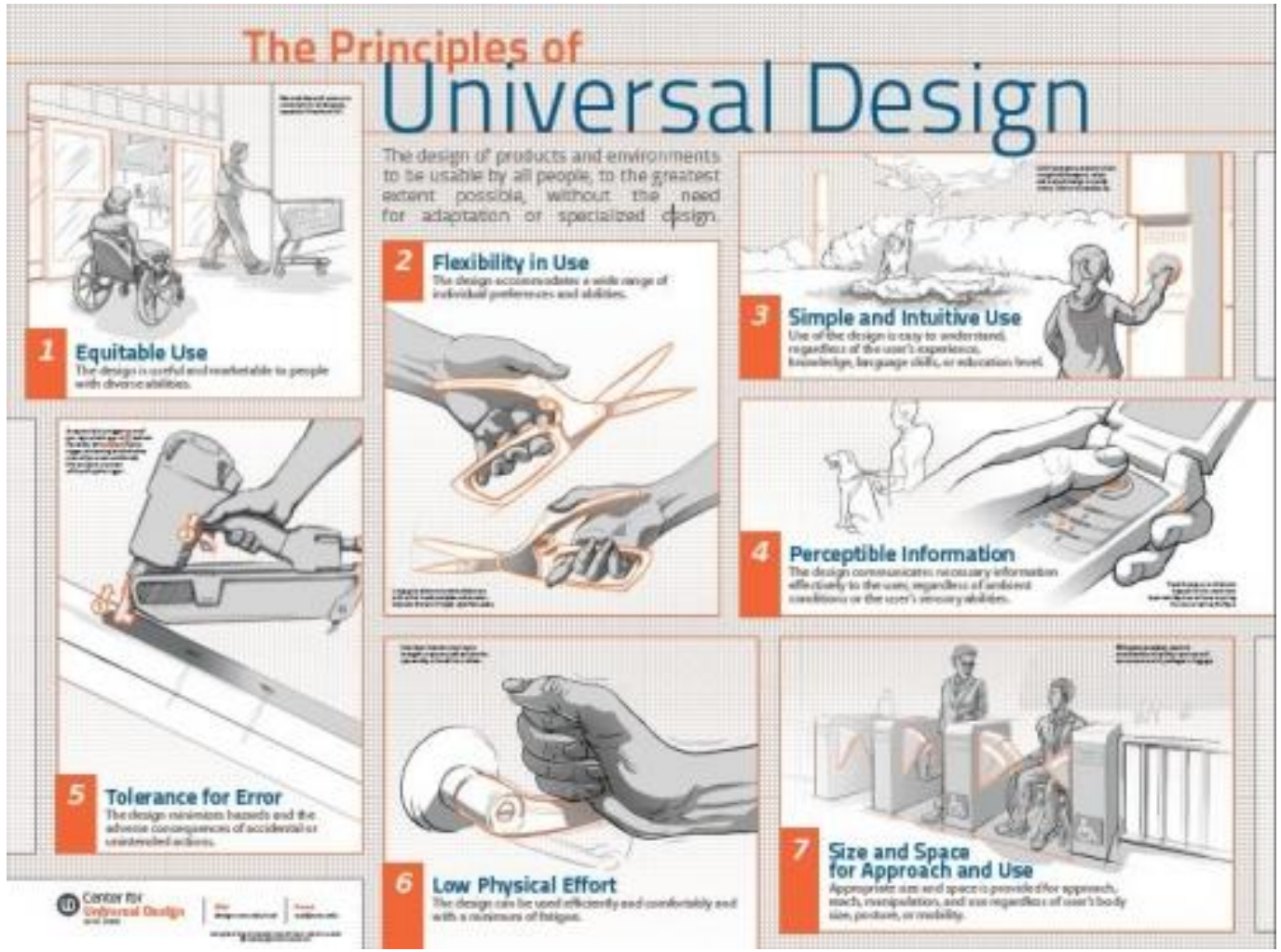



(Fauth & González-Martínez, 2021)




# KNOWLEDGE TRANSFER

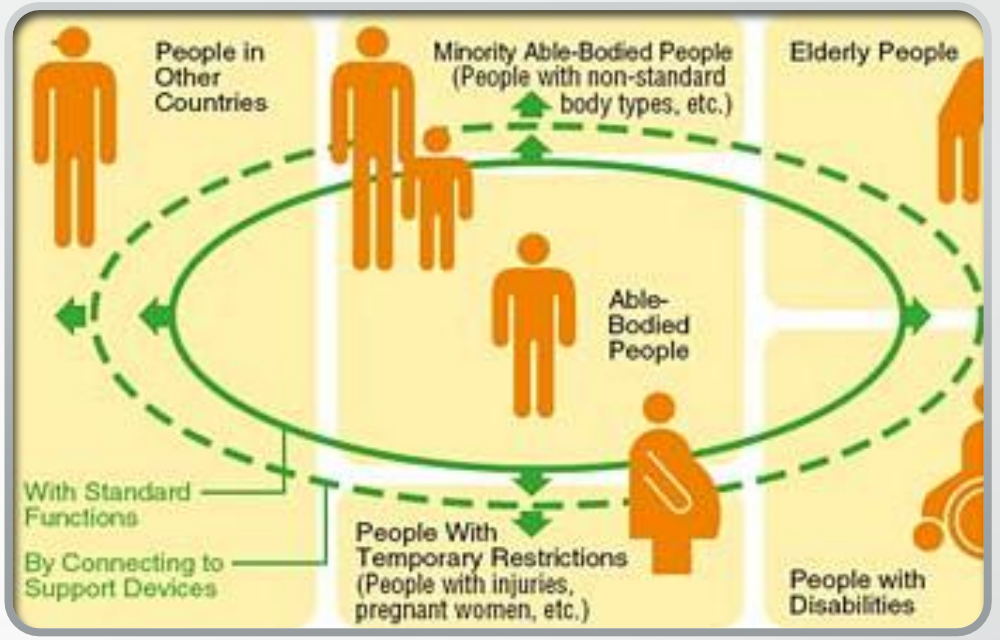
(Fauth & González-Martínez, 2021)




# Universal Design in the **PHYSICAL** environment

# UNIVERSAL DESIGN

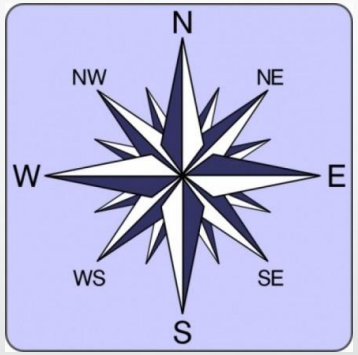
- **Intentional design:**
  - More economical
  - Respects diversity
  - Broadens usability
  - Anticipates a **variety** of needs




THANK YOU.

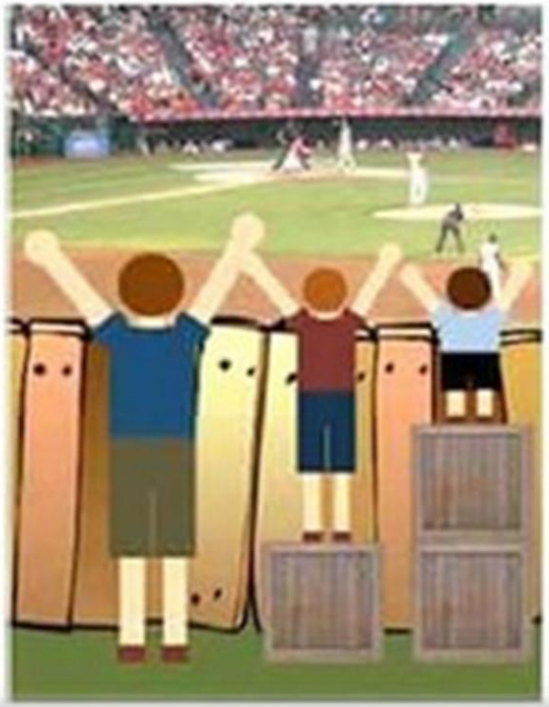
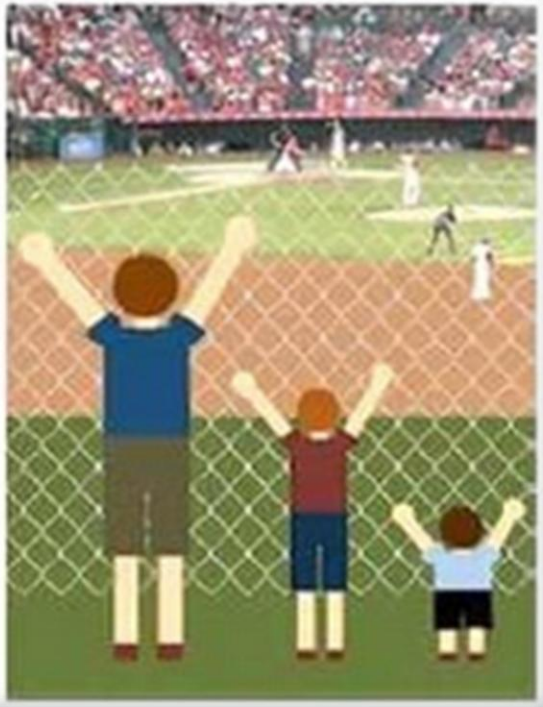
{{screaming}}
LET ME HELP YOU!

# VARIABILITY MATTERS

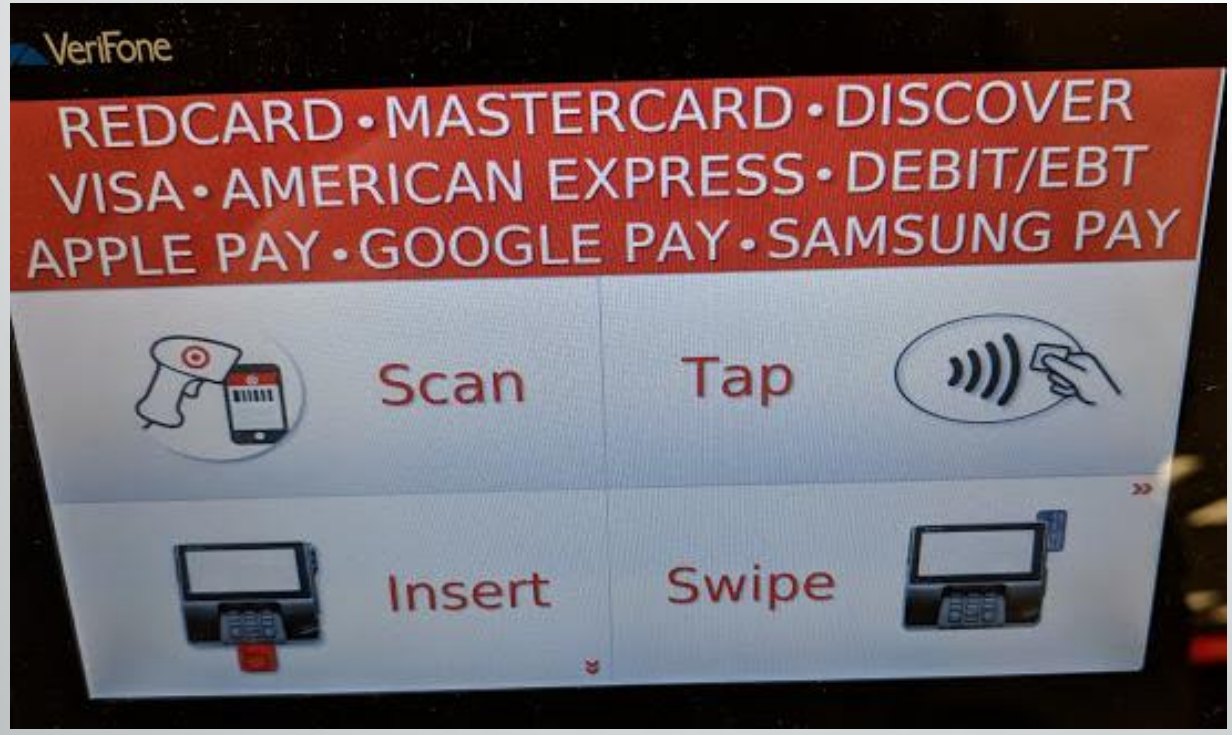
| | | |
|---|---|---|
| | **NORTH**<br>Just Do it! | |
| **WEST**<br>Detail Planner |  | **EAST**<br>Big Picture Thinker |
| | **SOUTH**<br>Feeler- touch base with <u>everyone</u> | |

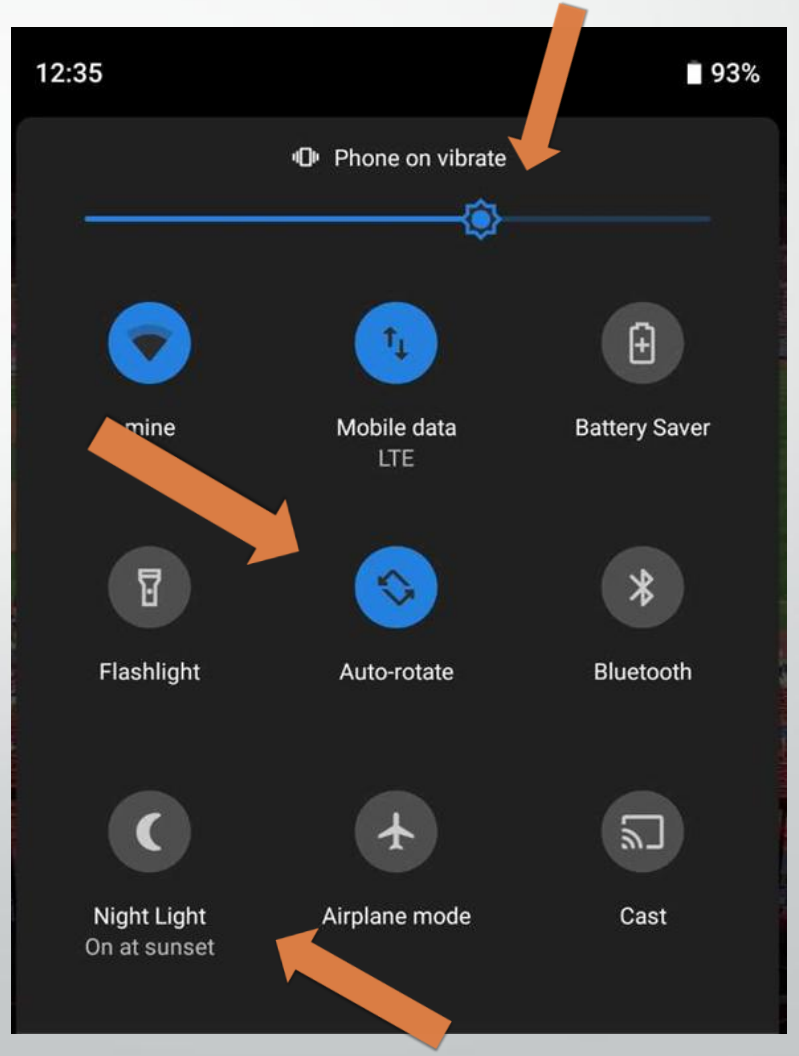
# "UNIVERSAL" IS NOT ONE-SIZE FITS ALL

# UNIVERSAL = VARIABLE DESIGN

| Equality | Equity | Variability |
| --- | --- | --- |
|  |  |  |

# VARIABILITY BY DESIGN



# UNIVERSAL DESIGN IN EDUCATION

"At CAST, we know that **barriers to learning are in education design, not individual learners.** We invented UDL to help break down these barriers so that all learners can shape their own learning journey and reach their potential. We elevate learning at every level with meticulous research and innovative professional development."

- Necessary for some, beneficial for all

# CHAT RESPONSE

- What was an assignment in your educational history that you just struggled with?

# Universal Design for Learning Guidelines

Provide multiple means of...

## Engagement

Purposeful, motivated learners

Stimulate interest and motivation for learning

## Representation

Resourceful, knowledgeable learners

Present information and content in different ways

## Action & Expression

Strategic, goal-directed learners

Differentiate the ways that studetns can express what they know

# UNIVERSAL DESIGN FOR LEARNING (UDL)

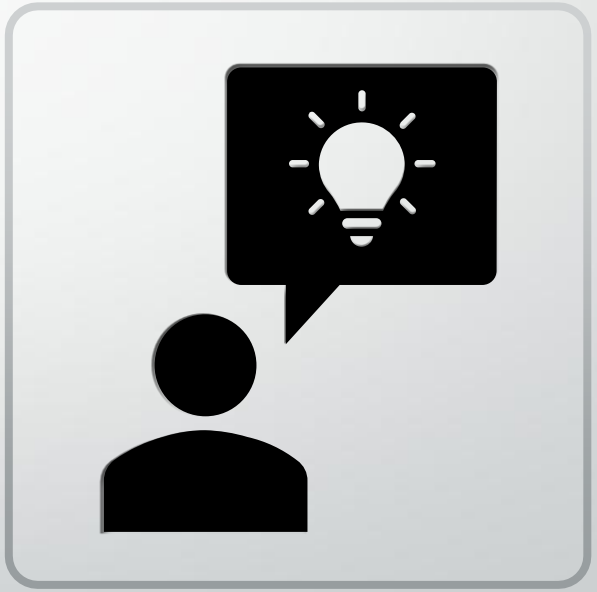
A set of principles for creating **inclusive** and **accessible** learning environments:

- Provides a **framework** to design assessments & materials
- Enables you to reach a **diverse** student population
- Increases participation, persistence, satisfaction & achievement

# META-MOMENT

## Variable response options:

- Reading
- Discussion
- Journaling
- Lecture
- Survey
- Video
- Quiz
- Discussion Board



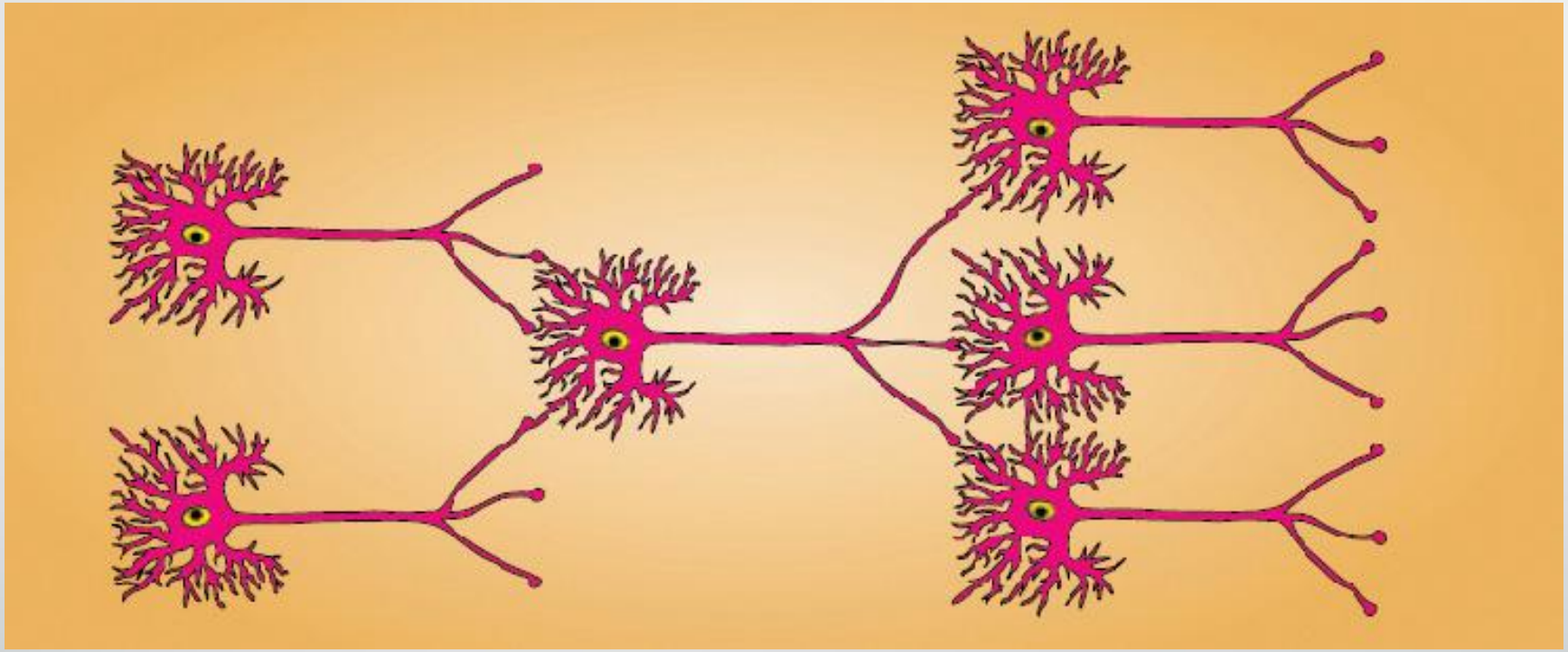
# NEURODIVERSITY

# NEURODIVERSITY

**Diverse neurological conditions appear as a result of normal variations in the human genome**

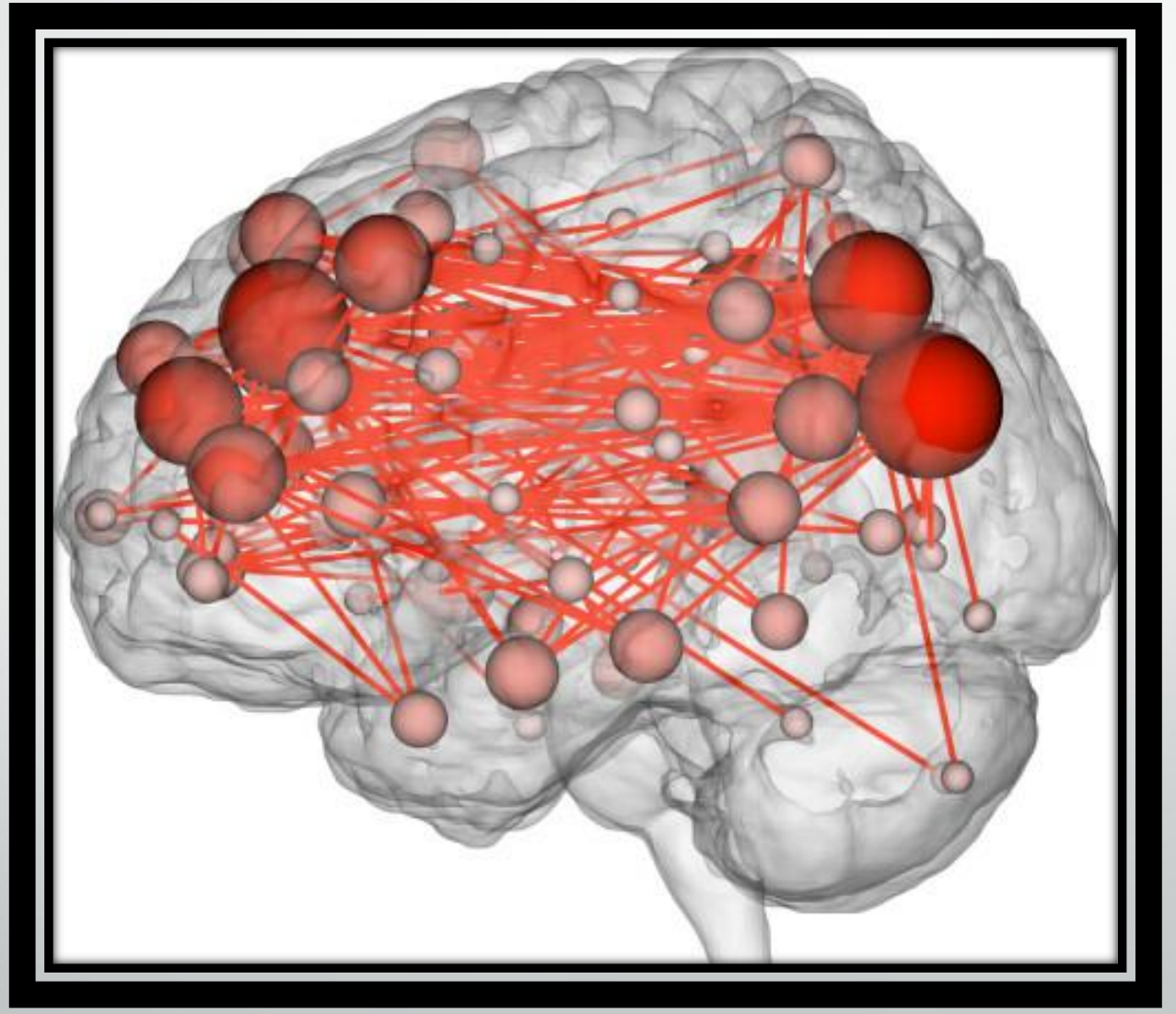
- "Neurodiversity Rewires Conventional Thinking About Brains" by Steve Silberman. WIRED.
- "What is Neurodiversity?" by John Robison. Psychology Today.
- "'Neurotypical' in Context" by POV (PBS documentary)
- SPECTRUM DISORDERS from DSM-V

# NEURONS

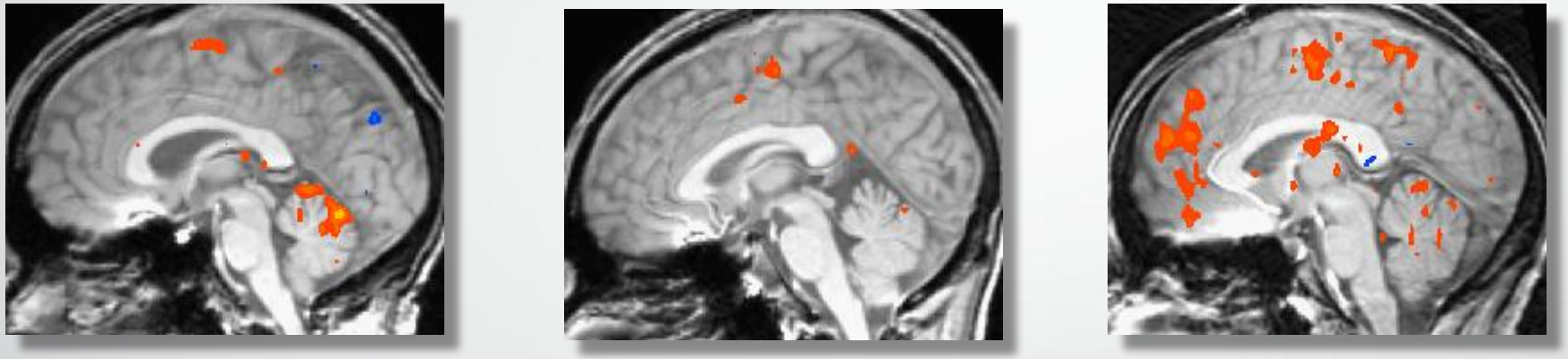


Human brain has ~86 billion neurons (chimps have ~7 billion)
~ 100 trillion connects

# “CONNECTOME”



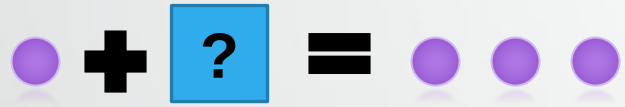
# DIVERSITY IN RESPONSE TO STIMULI



These three functional magnetic resonance images (fMRI) show brain activity patterns of three different people performing the **same simple, finger tapping task**.

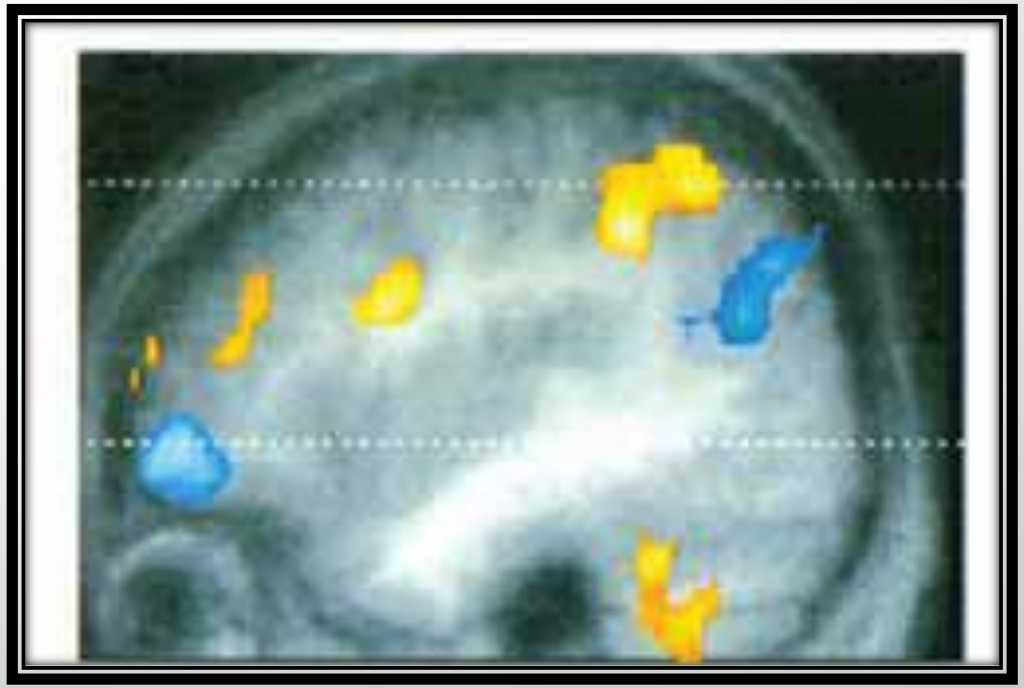
# DIVERSITY IN COMPREHENSION

- Semi-concrete/Representational




- Abstract/Symbolic

  1 + x = 3



(Howard-Jones, 2007)

# UNIVERSAL DESIGN:

- Is **NOT** one size fits all!
- **Differences not deficits**

**Affective networks:**
**The WHY of learning**

**Engagement**
For purposeful, motivated learners, stimulate interest and motivation for learning.

**Recognition networks:**
**The WHAT of learning**

**Representation**
For resourceful, knowledgeable learners, present information and content in different ways.

**Strategic networks:**
**The HOW of learning**

**Action & Expression**
For strategic, goal-directed learners, differentiate the ways that students can express what they know.

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Mentimeter

# How much do you agree/disagree with the following statements?

We only use 10% of our brains.

Classical music increases reasoning ability.

Short breks for exercise will improve grades.

Strongly agree

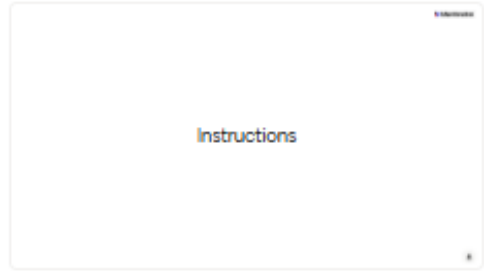
Strongly disagree

TV

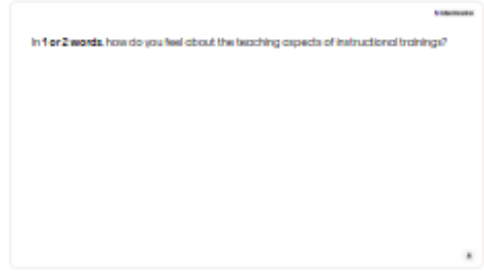
Menti

UDL: Using Inclusive De...

Choose a slide to present







# Quiz: True or False?

1. We only use 10% of our brain


2. Classical music increases reasoning ability

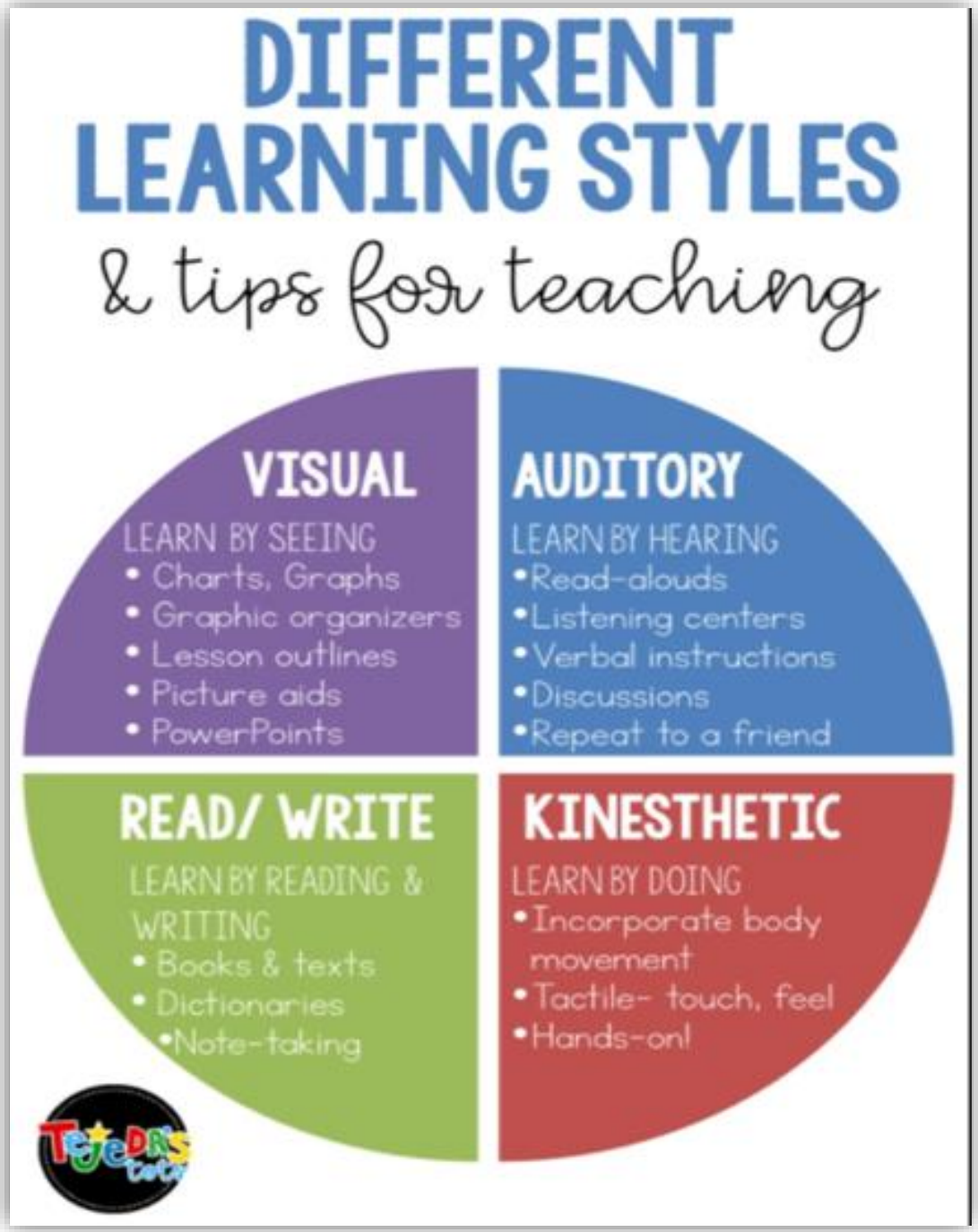
3. Short breaks for exercise will improve grades

# NEUROMYTHS

"Oversimplification or inappropriate interpretation of complex neuroscience research is widespread among curricula claiming that brain-based approaches are effective for improved learning and retention."

Alferink, Larry and Valeri Farmer-Dougan. "Brain-(not) Based Education: Dangers of Misunderstanding and Misapplication of Neuroscience Research." *Exceptionality*. 18 (2010):42-52


# LEFT/RIGHT BRAIN


DIFFERENT LEARNING STYLES
& tips for teaching
VISUAL
LEARN BY SEEING
• Charts, Graphs
• Graphic organizers
• Lesson outlines
• Picture aids
• PowerPoints
AUDITORY
LEARN BY HEARING
• Read-alouds
• Listening centers
• Verbal instructions
• Discussions
• Repeat to a friend
READ/ WRITE
LEARN BY READING & WRITING
• Books & texts
• Dictionaries
• Note-taking
KINESTHETIC
LEARN BY DOING
• Incorporate body movement
• Tactile- touch, feel
• Hands-on!

# RESEARCH


## Left/Right Brain

- Corballis, M. C. (2014). Left brain, right brain: facts and fantasies. *PLoS biology*, *12*(1), e1001767.
- McManus, C. (2019). Half a century of handedness research: Myths, truths; fictions, facts; backwards, but mostly forwards. *Brain and neuroscience advances*, *3*, 2398212818820513.
- Shin, D. D., Lee, M., & Bong, M. (2022). Beyond left and right: Learning is a whole-brain process. *Theory into Practice*, *61*(3), 347-357.

## Learning Styles

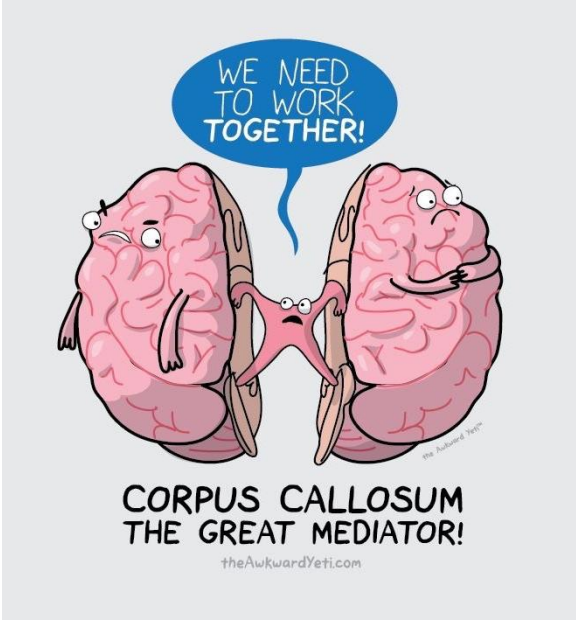
- Riener, C., & Willingham, D. (2010). The myth of learning styles. *Change: The magazine of higher learning*, *42*(5), 32-35.
- Newton, P. M. (2015). The learning styles myth is thriving in higher education. *Frontiers in psychology*, *6*, 1908.
- Kirschner, P. A. (2017). Stop propagating the learning styles myth. *Computers & Education*, *106*, 166-171.

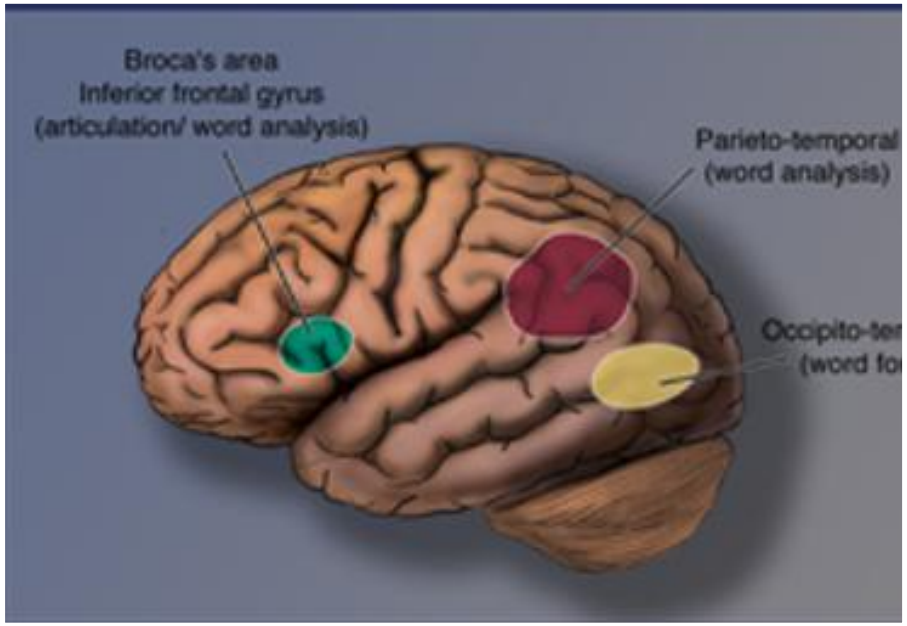
# THE DANGERS OF NEUROMYTHS

If I am *"left brained"* then I am inherently weak in the right side of my brain. I can NEVER be good at math.

OR

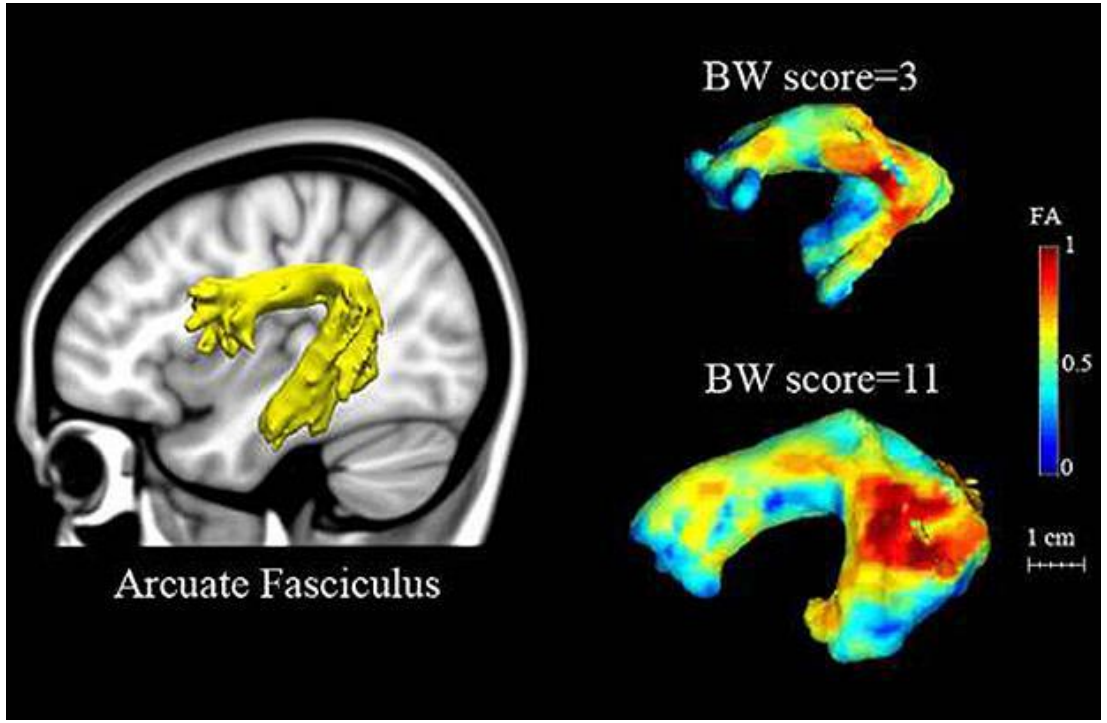
I'm a "*visual learner*" and I can't do all this reading.




# WHOLE-BRAIN READING

(Shaywitz 2005)




# WHOLE-BRAIN READING

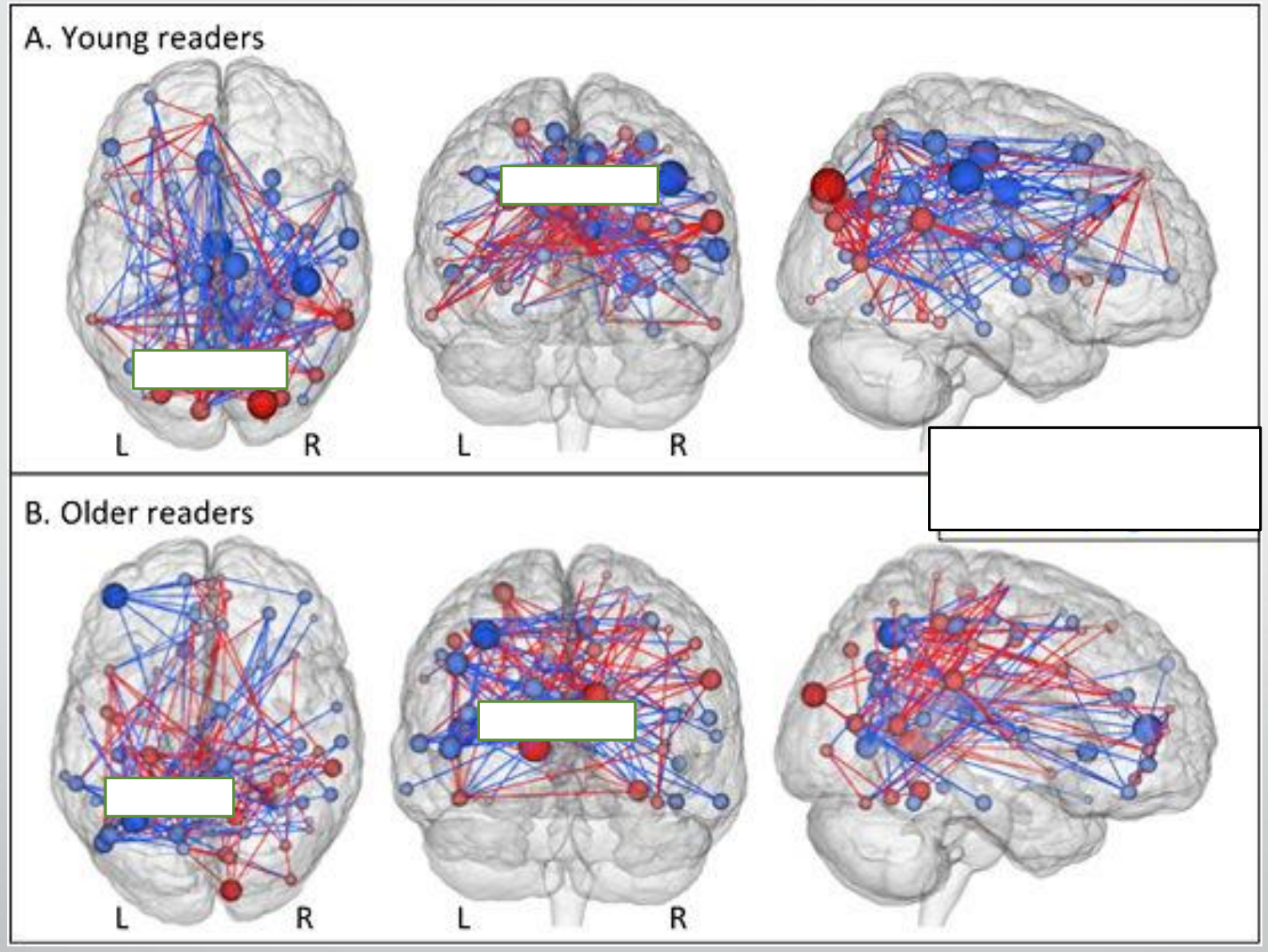
(Saygin et al. 2013)

# NEUROPLASTICITY

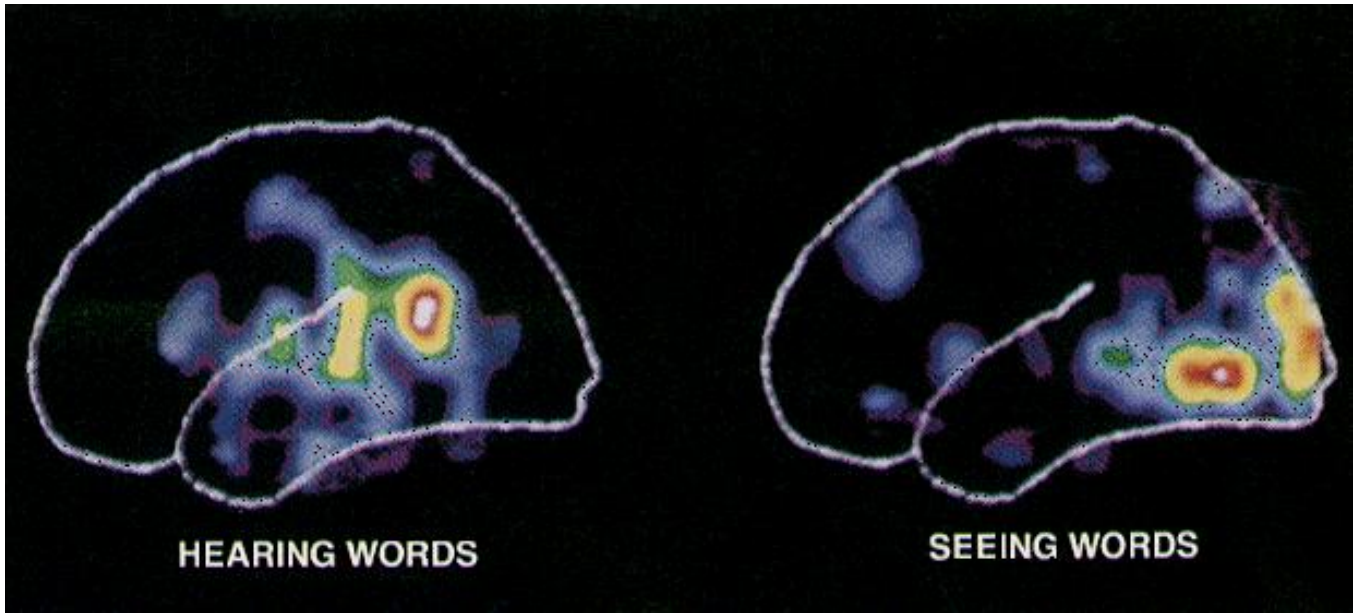
- Brains are plastic throughout our lives
- Reorganized by stimuli
- Changes over time

## Connectivity

- Structural and functional differences visible before the onset of symptoms
- Increases in speed with use

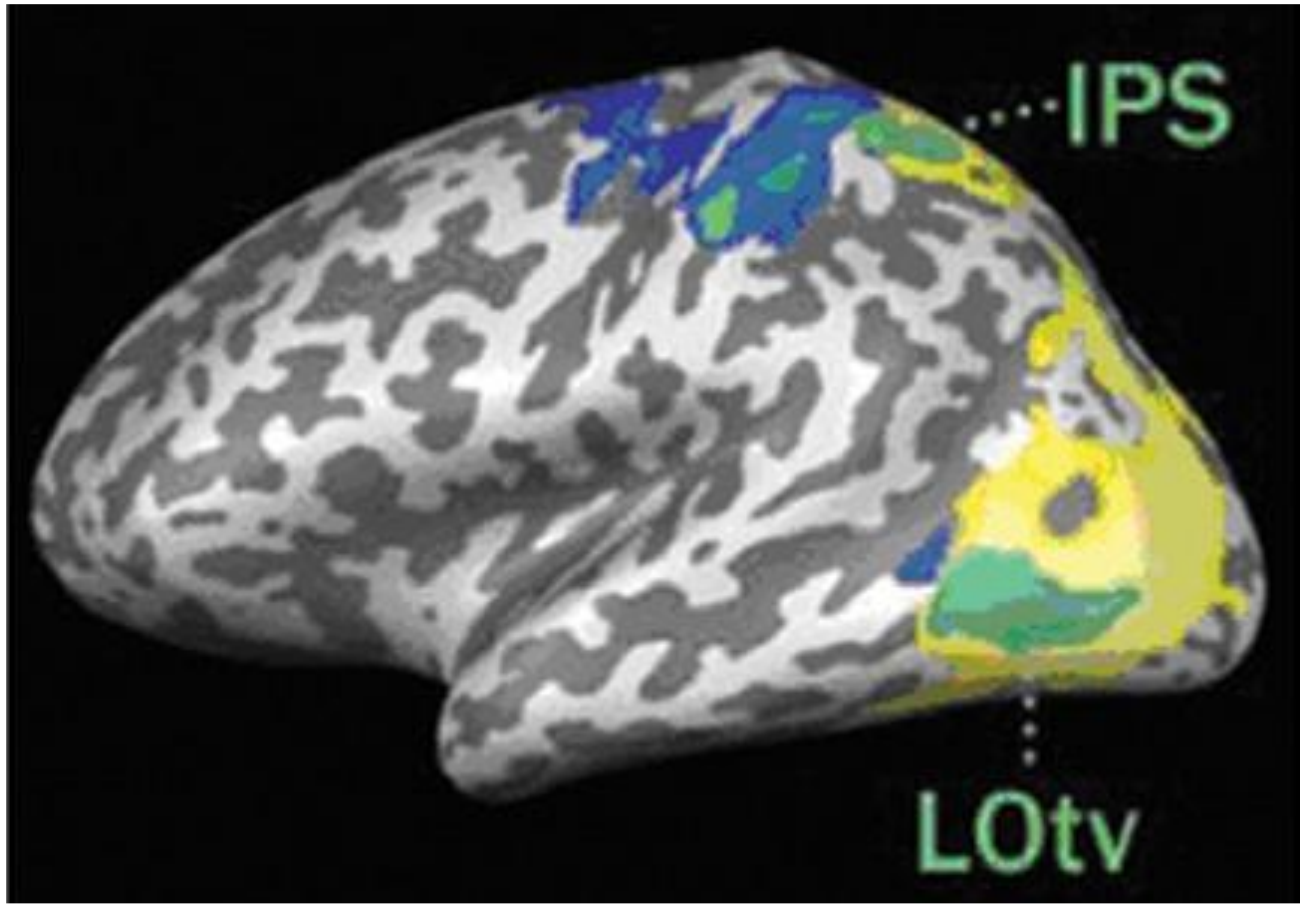



(Finn et al. 2014)




# SIGHT & SOUND

(Posner & Raichle, 1994)




# SIGHT & TOUCH

(Howard-Jones et.al. 2010)

# NEURO-TRAINING

**Attaching new knowledge onto existing neural networks is more efficient than creating new networks**

Connect new information/skills to existing knowledge

**The brain is constantly forming and pruning connections**

Use it or lose it!

**Time and effort are needed to establish new pathways & Repeated use of a pathway improves speed and efficiency**

Repeat information and skills to allow multiple attempts

# SELF-REFLECTION

- Think of a moment where you have changed in preferences or ability

# Universal Design for Learning

## 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

## 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

## 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

# 10-Minute BREAK!

Join at menti.com | use code 4986 7070

Mentimeter

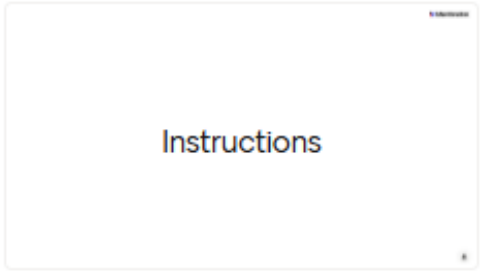
# In **1 or 2 words**, how are you feeling so far?


TV

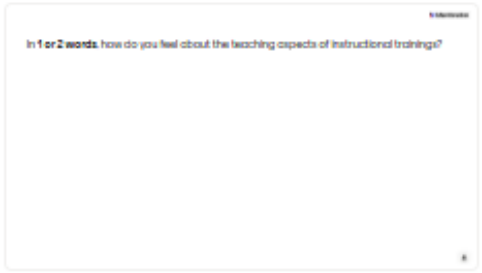
Menti

UDL: Using Inclusive De...

Choose a slide to present







# The Universal Design for Learning Guidelines

The goal of UDL is **learner agency** that is purposeful & reflective, resourceful & authentic, strategic & action-oriented.

| | Design Multiple Means of **Engagement**  | Design Multiple Means of **Representation**  | Design Multiple Means of **Action & Expression**  |
|---|---|---|---|
| Access | Design Options for **Welcoming Interests & Identities**<br>• Optimize choice and autonomy<br>• Optimize relevance, value, and authenticity<br>• Nurture joy and play<br>• Address biases, threats, and distractions | Design Options for **Perception**<br>• Support opportunities to customize the display of information<br>• Support multiple ways to perceive information<br>• Represent a diversity of perspectives and identities in authentic ways | Design Options for **Interaction**<br>• Vary and honor the methods for response, navigation, and movement<br>• Optimize access to accessible materials and assistive and accessible technologies and tools |
| Support | Design Options for **Sustaining Effort & Persistence**<br>• Clarify the meaning and purpose of goals<br>• Optimize challenge and support<br>• Foster collaboration, interdependence, and collective learning<br>• Foster belonging and community<br>• Offer action-oriented feedback | Design Options for **Language & Symbols**<br>• Clarify vocabulary, symbols, and language structures<br>• Support decoding of text, mathematical notation, and symbols<br>• Cultivate understanding and respect across languages and dialects<br>• Address biases in the use of language and symbols<br>• Illustrate through multiple media | Design Options for **Expression & Communication**<br>• Use multiple media for communication<br>• Use multiple tools for construction, composition, and creativity<br>• Build fluencies with graduated support for practice and performance<br>• Address biases related to modes of expression and communication |
| Executive Function | Design Options for **Emotional Capacity**<br>• Recognize expectations, beliefs, and motivations<br>• Develop awareness of self and others<br>• Promote individual and collective reflection<br>• Cultivate empathy and restorative practices | Design Options for **Building Knowledge**<br>• Connect prior knowledge to new learning<br>• Highlight and explore patterns, critical features, big ideas, and relationships<br>• Cultivate multiple ways of knowing and making meaning<br>• Maximize transfer and generalization | Design Options for **Strategy Development**<br>• Set meaningful goals<br>• Anticipate and plan for challenges<br>• Organize information and resources<br>• Enhance capacity for monitoring progress<br>• Challenge exclusionary practices |

CAST | Until learning has no limits®



Suggested Citation: CAST (2024). Universal Design for Learning Guidelines version 3.0 [graphic organizer]. Lynnfield, MA: Author.

Design Multiple Means of
**Representation**

Design Options for
**Perception**

Design Options for
**Language & Symbols**

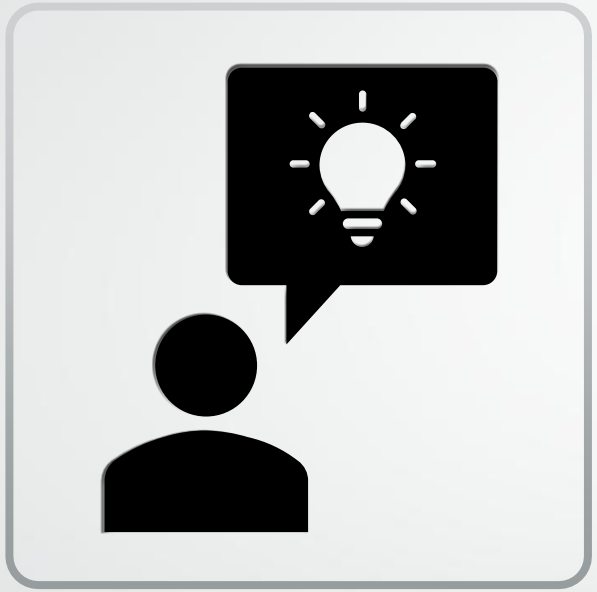
Design Options for
**Building Knowledge**

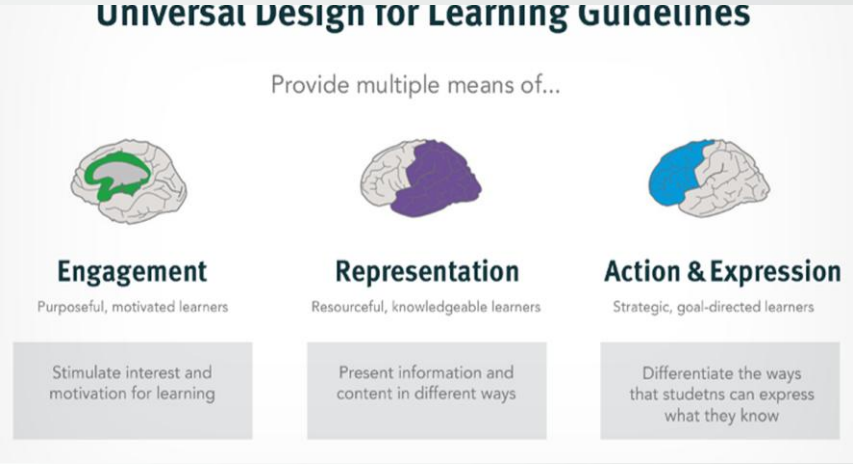
# WHAT IS REPRESENTATION?

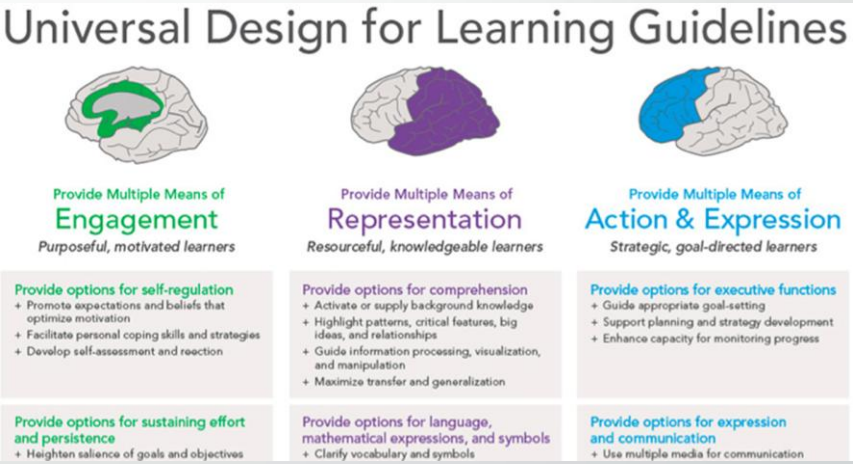
*"How do I **present** content?"*

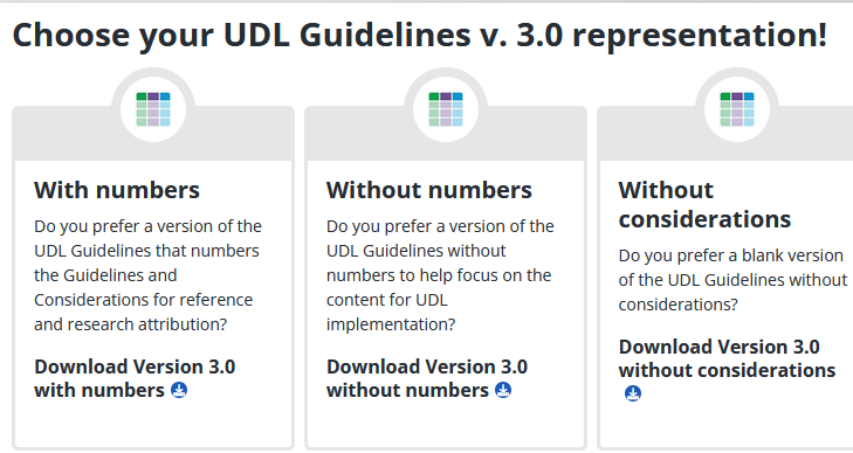
- Information Processing
  - Document design & multimedia
- Scaffolding
- Repetition for retrieval

# Meta-Moment

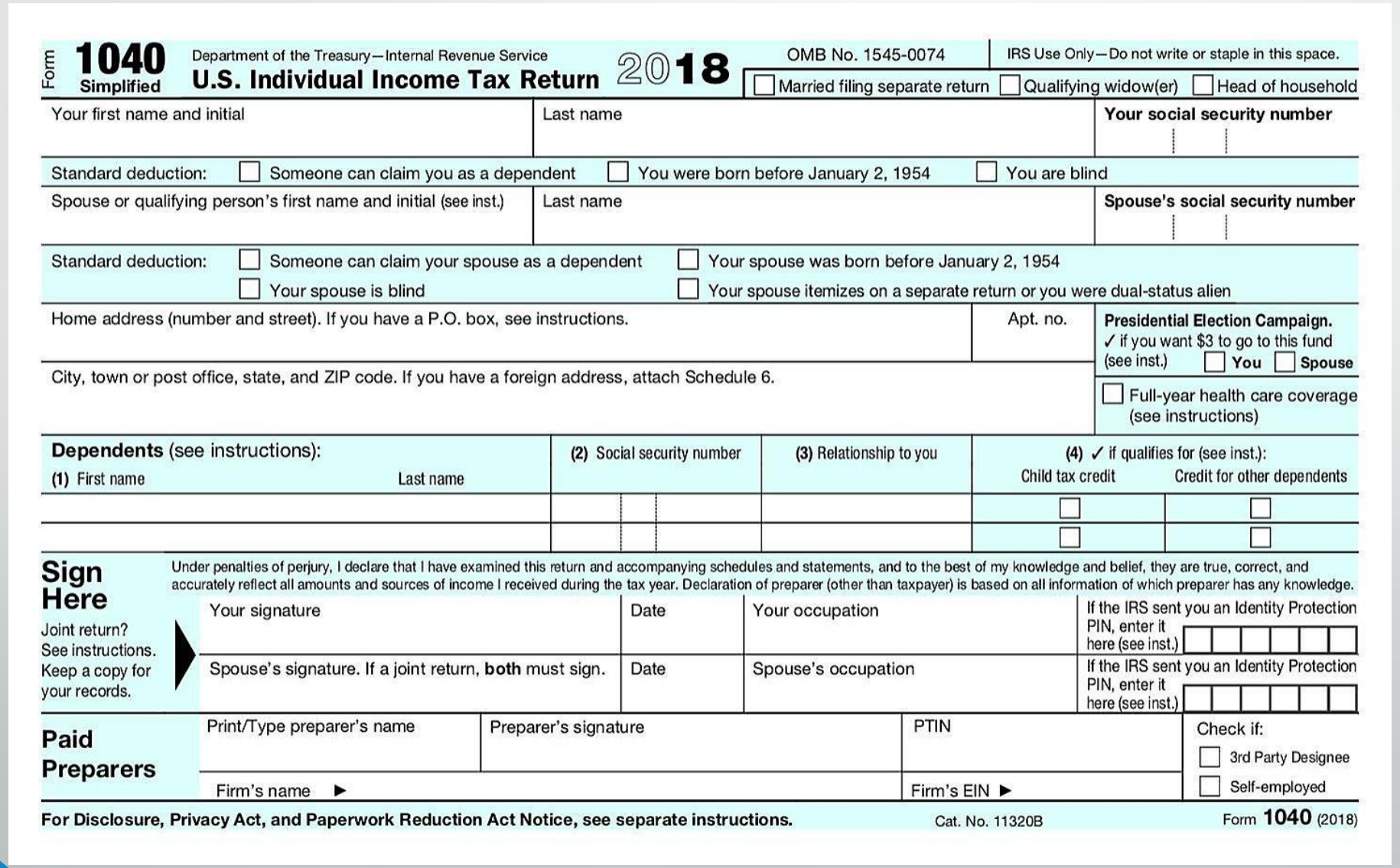



Universal Design for Learning Guidelines
Provide multiple means of...
Engagement
Purposeful, motivated learners
Stimulate interest and motivation for learning
Representation
Resourceful, knowledgeable learners
Present information and content in different ways
Action & Expression
Strategic, goal-directed learners
Differentiate the ways that studetns can express what they know


Universal Design for Learning Guidelines
Provide Multiple Means of
Engagement
Purposeful, motivated learners
Provide options for self-regulation
+ Promote expectations and beliefs that optimize motivation
+ Facilitate personal coping skills and strategies
+ Develop self-assessment and reaction
Provide options for sustaining effort and persistence
+ Heighten salience of goals and objectives
Provide Multiple Means of
Representation
Resourceful, knowledgeable learners
Provide options for comprehension
+ Activate or supply background knowledge
+ Highlight patterns, critical features, big ideas, and relationships
+ Guide information processing, visualization, and manipulation
+ Maximize transfer and generalization
Provide options for language, mathematical expressions, and symbols
+ Clarify vocabulary and symbols
Provide Multiple Means of
Action & Expression
Strategic, goal-directed learners
Provide options for executive functions
+ Guide appropriate goal-setting
+ Support planning and strategy development
+ Enhance capacity for monitoring progress
Provide options for expression and communication
+ Use multiple media for communication


Choose your UDL Guidelines v. 3.0 representation!
With numbers
Do you prefer a version of the UDL Guidelines that numbers the Guidelines and Considerations for reference and research attribution?
Download Version 3.0 with numbers
Without numbers
Do you prefer a version of the UDL Guidelines without numbers to help focus on the content for UDL implementation?
Download Version 3.0 without numbers
Without considerations
Do you prefer a blank version of the UDL Guidelines without considerations?
Download Version 3.0 without considerations

# CROWDING



Form **1040** Simplified — Department of the Treasury—Internal Revenue Service — **U.S. Individual Income Tax Return** 2018 — OMB No. 1545-0074 — IRS Use Only—Do not write or staple in this space.

☐ Married filing separate return ☐ Qualifying widow(er) ☐ Head of household

Your first name and initial | Last name | **Your social security number**

Standard deduction: ☐ Someone can claim you as a dependent ☐ You were born before January 2, 1954 ☐ You are blind

Spouse or qualifying person's first name and initial (see inst.) | Last name | **Spouse's social security number**

Standard deduction: ☐ Someone can claim your spouse as a dependent ☐ Your spouse was born before January 2, 1954 ☐ Your spouse is blind ☐ Your spouse itemizes on a separate return or you were dual-status alien

Home address (number and street). If you have a P.O. box, see instructions. | Apt. no. | **Presidential Election Campaign.** ✓ if you want $3 to go to this fund (see inst.) ☐ **You** ☐ **Spouse**

City, town or post office, state, and ZIP code. If you have a foreign address, attach Schedule 6. | ☐ Full-year health care coverage (see instructions)

| **Dependents** (see instructions): (1) First name / Last name | (2) Social security number | (3) Relationship to you | (4) ✓ if qualifies for (see inst.): Child tax credit | Credit for other dependents |
|---|---|---|---|---|
| | | | ☐ | ☐ |
| | | | ☐ | ☐ |

**Sign Here** — Joint return? See instructions. Keep a copy for your records.

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and accurately reflect all amounts and sources of income I received during the tax year. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature | Date | Your occupation | If the IRS sent you an Identity Protection PIN, enter it here (see inst.)

Spouse's signature. If a joint return, **both** must sign. | Date | Spouse's occupation | If the IRS sent you an Identity Protection PIN, enter it here (see inst.)

**Paid Preparers** — Print/Type preparer's name | Preparer's signature | PTIN | Check if: ☐ 3rd Party Designee ☐ Self-employed

Firm's name ▶ | Firm's EIN ▶

**For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see separate instructions.** Cat. No. 11320B Form **1040** (2018)

# CROWDING

**Paper Version**

STUDENT NAME:_____ Date:_____
Tutor's Initials: _____ Period:_____

Time it took student to read first pass through: ____ min _____ sec

A group of women crammed in to the Crenshaw Boulevard bus, getting on at the Grove Street stop. Shoving students and other passe
line, by pushing and heaving, they forced themselves int
make room for themselves where none seemed to be. As
the long RUN to Huntington Street, the women settled i
private worlds, creating the illusion of space for themsel
them from the others on the bus. The worlds they made
made from newspapers and magazines, behind blank sta
at the panels of advertising that lined the space above th

**2-1. Why was it difficult to get on the bus?**

A. The bus tried to skip the stop.

B. The was under construction.

C. The bus had lots of people on it.

D. Everyone had bookba

**2-3. Staring at served the san**

A. getting on t

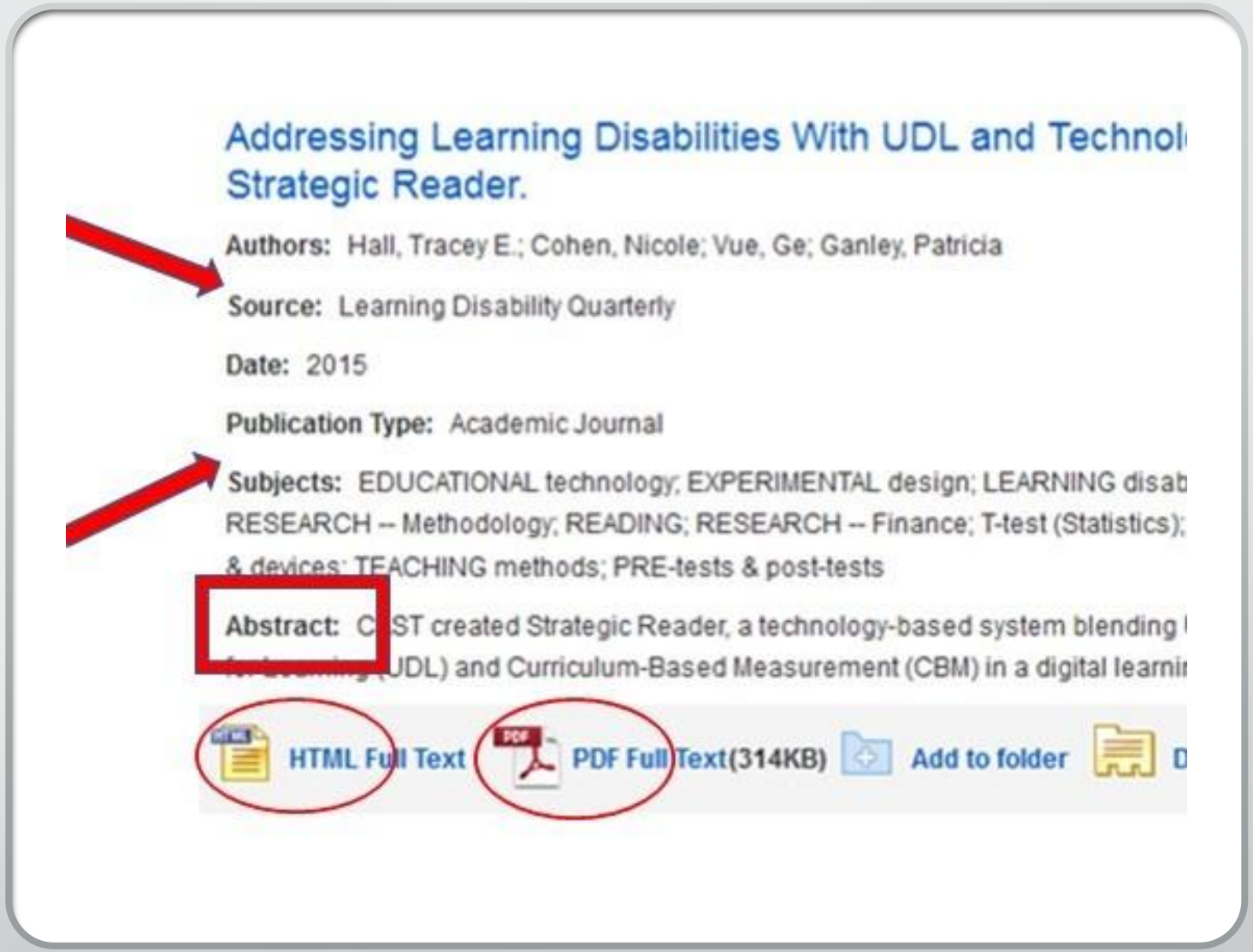
B. taking a bre

C


(Schneps 2013)

# DOCUMENT DESIGN

- Headings & sections
- Contrast (color, shape, size)
- Organization
- Summary
- Accessibility



# MINDSET Assignment

**Summary:**

Carol Dweck popularized the idea that people generally fall into 2 types of thinking patterns, which she calls Mindset. According to Dweck, there are the Fixed or Growth types of thinking.

In a fixed mindset, people believe their basic qualities, like their intelligence or talent, are simply fixed traits. They spend their time documenting their intelligence or talent instead of developing them. They also believe that talent alone creates success—without effort. They're wrong.

In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment.[1]

| Fixed Mindset | Growth Mindset |
|---|---|
| **Intelligence is static.** | **Intelligence can be developed.** |
| Leads to a desire to *look smart* and therefore a tendency to | Leads to a desire to *learn* and therefore a tendency to |
| • avoid challenges | • embrace challenges |
| • give up easily due to obstacles | • persist despite obstacles |
| • see effort as fruitless | • see effort as path to mastery |
| • ignore useful feedback | • learn from criticism |
| • be threatened by others' success | • be inspired by others' success |

**Assignment:**

1) Read 1 of the linked articles, or watch 1 of the linked videos
2) Summarize & respond to what you read/saw (1 page example provided)
3) Take the Mindset Quiz
4) Post your quiz results to the Discussion Board & say if you think it is accurate for you

[1] For more informa… visit http://mindsetonline.com/whatisit/about/

**Background:** (Excerpt from "Fixed vs. Growth: The Two Basic Mindsets That Shape Our Lives" by Maria Popova)

"If you imagine less, less will be what you undoubtedly deserve," Debbie Millman counseled in one of the best commencement speeches ever given, urging: "Do what you love, and don't stop until you get what you love. Work as hard as you can, imagine immensities…" Far from Pollyanna platitude, this advice actually reflects what modern psychology knows about how belief systems about our own abilities and potential fuel our behavior and predict our success. Much of that understanding stems from the work of Stanford psychologist Carol Dweck, synthesized in her remarkably insightful Mindset: The New Psychology of Success an inquiry into the power of our beliefs, both conscious and unconscious, and how changing even the simplest of them can have profound impact on nearly every aspect of our lives.

One of the most basic beliefs we carry about ourselves, Dweck found in her research, has to do with how we view and inhabit what we consider to be our personality. A "fixed mindset" assumes that our character, intelligence, and creative ability are static givens which we can't change in any meaningful way, and success is the affirmation of that inherent intelligence, an assessment of how those givens measure up against an equally fixed standard; striving for success and avoiding failure at all costs become a way of maintaining the sense of being smart or skilled. A "growth mindset," on the other hand, thrives on challenge and sees failure not as evidence of unintelligence but as a heartening springboard for growth and for stretching our existing abilities. Out of these two mindsets, which we manifest from a very early age, springs a great deal of our behavior, our relationship with success and failure in both professional and personal contexts, and ultimately our capacity for happiness.

**Articles:**

- http://www.huffingtonpost.com/dr-travis-bradberry/why-attitude-is-more-impo_b_9093054.html
- http://www.mineralwellsindex.com/news/growth-versus-fixed-mindset-smart-is-something-you-can-get/article_d5274f88-c3cb-11e5-a27b-73488169e66f.html

**Videos:**

- https://www.youtube.com/watch?v=QGvR_0mNpWM
- http://www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve#t-40954

**Quiz:**

- http://mindsetonline.com/testyourmindset/step1.php

# MULTIMEDIA

- Students respond to shorter, faster videos at point of need
- Convenient & permanent resource

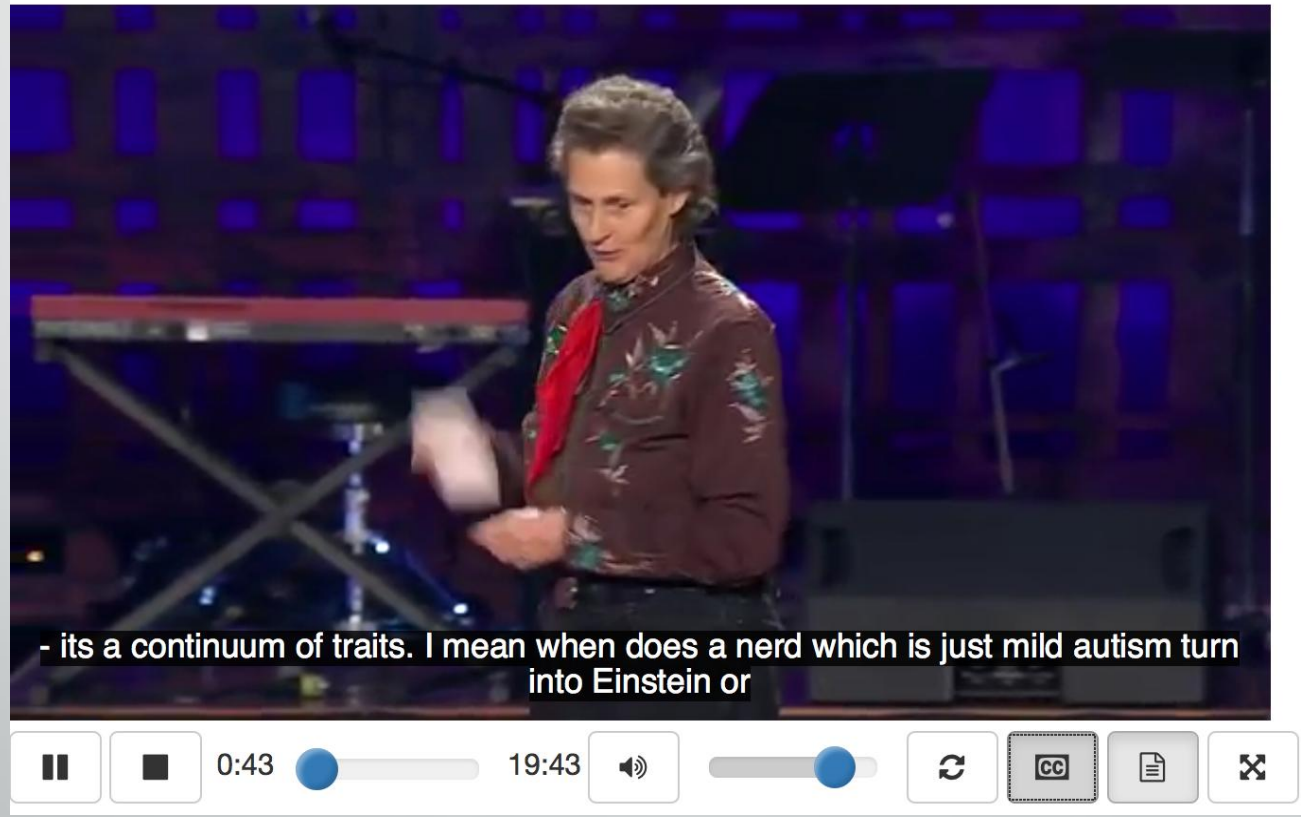
**Multimedia effect**—in which students learn more deeply from words and pictures than from words alone

- Can be more effective than written words with static pictures


(Hu et al. 2021)

# YOUTUBE

Temple Grandin discusses Autism Spectrum Disorder on TED.com




I think I'll start out and just talk about what exactly autism is. Autism is a continuum which goes from very severe non-verbal all the way up to brilliant scientists and engineers and I actually feel at home here because a lot of autism genetics here you wouldn't have any - its a continuum of traits. I mean when does a nerd which is just mild autism turn into Einstein or Mozart and Tusla would all be probably diagnosed as autistic spectrum today and one thing which really concerns me is getting these kids to the be the ones that are going to invent the next energy things that bill gates talked about this morning ok now if you want to understand autism animals and i wanna talk to you about different ways of thinking. You have to get away

# SCREENCASTS

- Yuja (in Canvas)
- Screencastify (browser extension)
- Screenpal (web)

# SCREENCASTS


**NO TALKING HEADS!**

**Goals:**

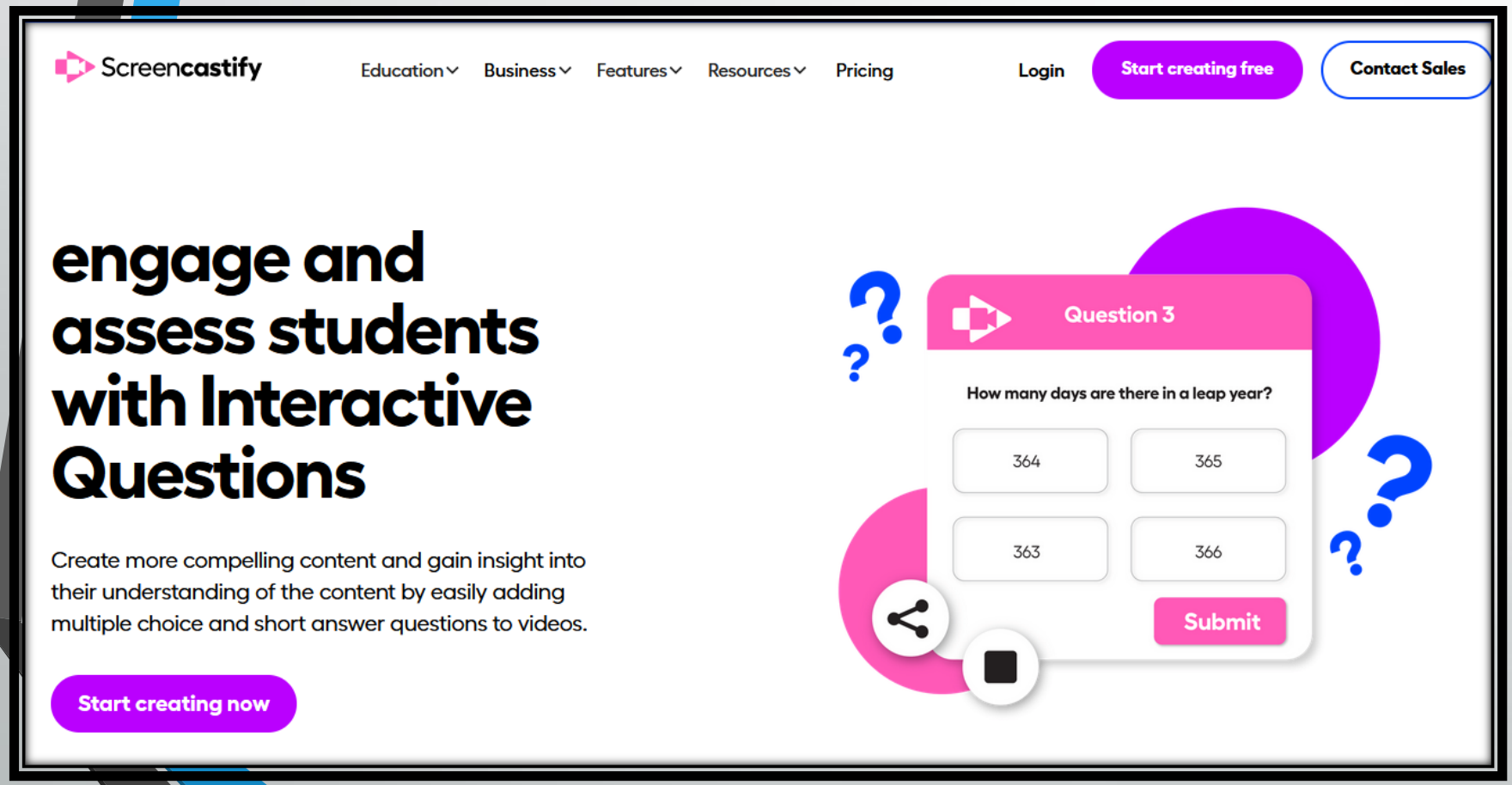
- Lecture only to complement
- Task training (software, database, mechanics, library functions, etc)
- Tours
- Providing feedback

**Process:**

- Short (5-10 min)
- Followed by task

(Friedman 2021)

# INTERACTIVE FEATURES




**Other platforms:**

- Mentimeter
- Padlet
- Kahoot!
- Jamboard

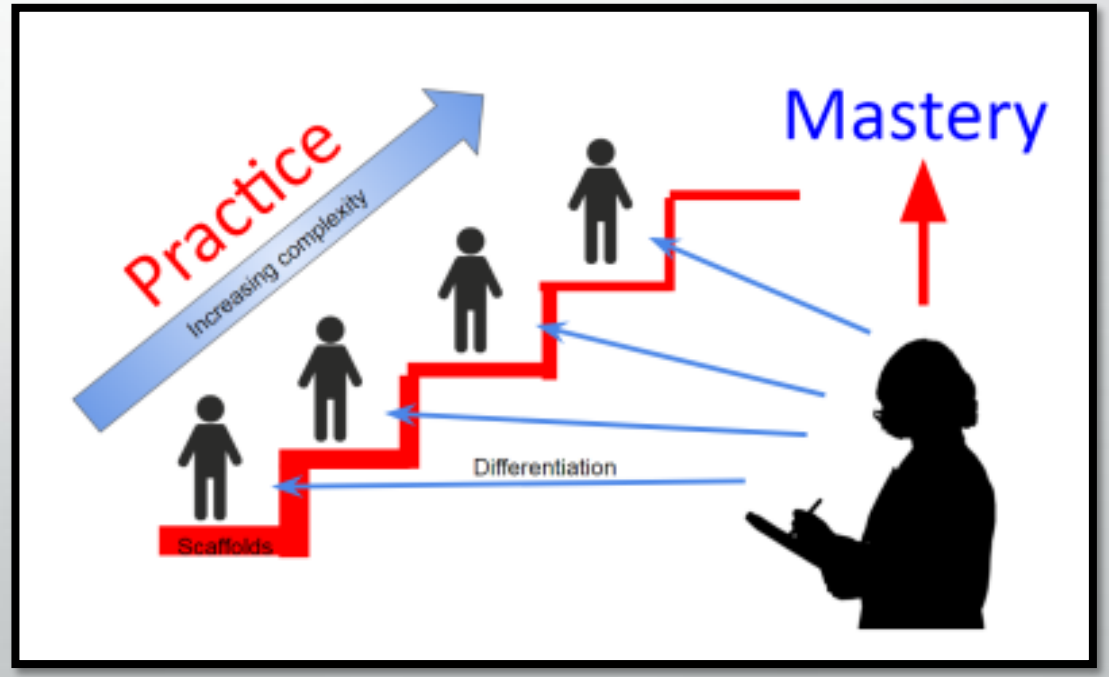
# INFORMATION PROCESSING- Scaffolding

**Develop meaning first, and then revise for correctness last**

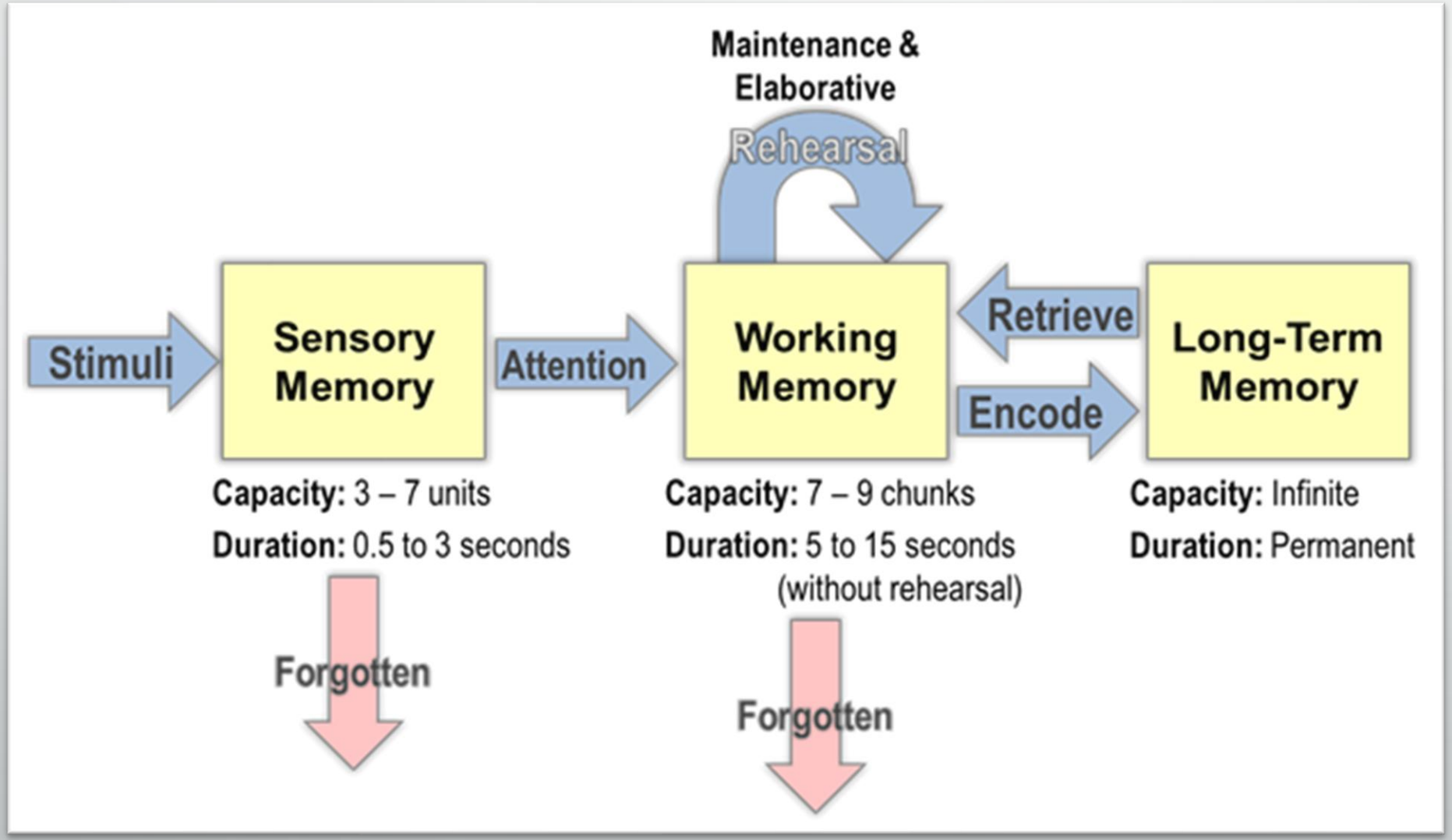
- Familiar to unfamiliar
- Simple to complex
- Multiple levels of difficulty

**Ask questions that are**

- textbased
- personal
- global



# INFORMATION PROCESSING- MEMORY



# CHAT: Which is the REAL penny?

# POP QUIZ: SELF-REFLECTION

- When & where did UD begin and by whom?
- What is neurodiversity?

# MEMORY: What can go wrong?

- Sensory issues
- Failure to move information to Long-term memory
- Memory decay
- Memory interference
- Failure to retrieve a stored memory

# REPRESENTATION TAKEAWAY

Guide information processing

Activate or supply **background knowledge** with explicit links
Highlight **patterns,** ideas, and relationships
Multimedia helps increase connections
Document design is important

Allow sufficient **time** for the formation of memories

**Revisit** information to strengthen memory

Join at menti.com | use code 4986 7070

Mentimeter

# Which of the following best represents "multiple means of representation"?

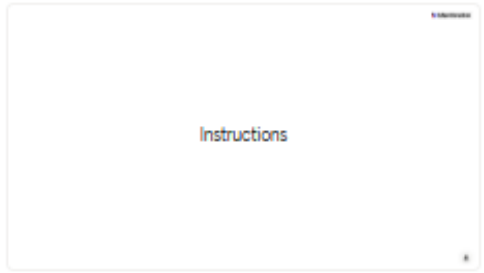
| 0 | 0 | 0 | 0 |
|---|---|---|---|
| Using only readings for instruction | Presenting information through multiple formats | Giving students fewer learning materials | Using only videos for instruction |

TV

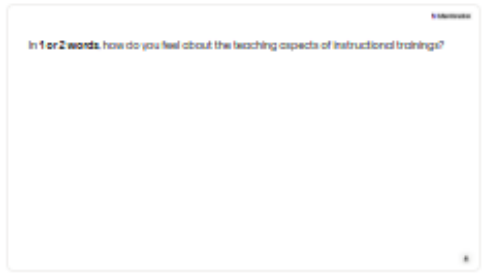
Menti

UDL: Using Inclusive De...

Choose a slide to present







# OPEN QUESTIONS?

Design Multiple Means of
**Engagement**

Design Options for
**Welcoming Interests & Identities**

Design Options for
**Sustaining Effort & Persistence**

Design Options for
**Emotional Capacity**

# WHAT IS ENGAGEMENT?

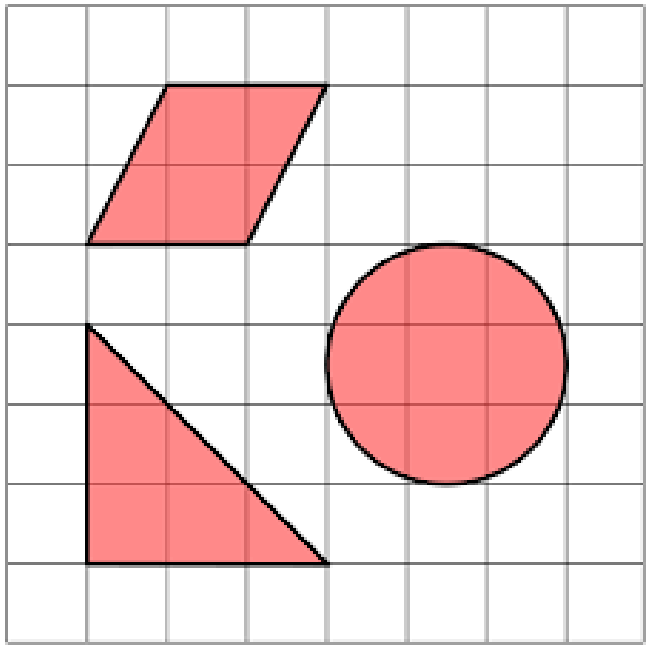
*"How do I promote **interest** & **involvement**?"*

- **Relevant** and **Meaningful** Goals
- **Develop metacognition**

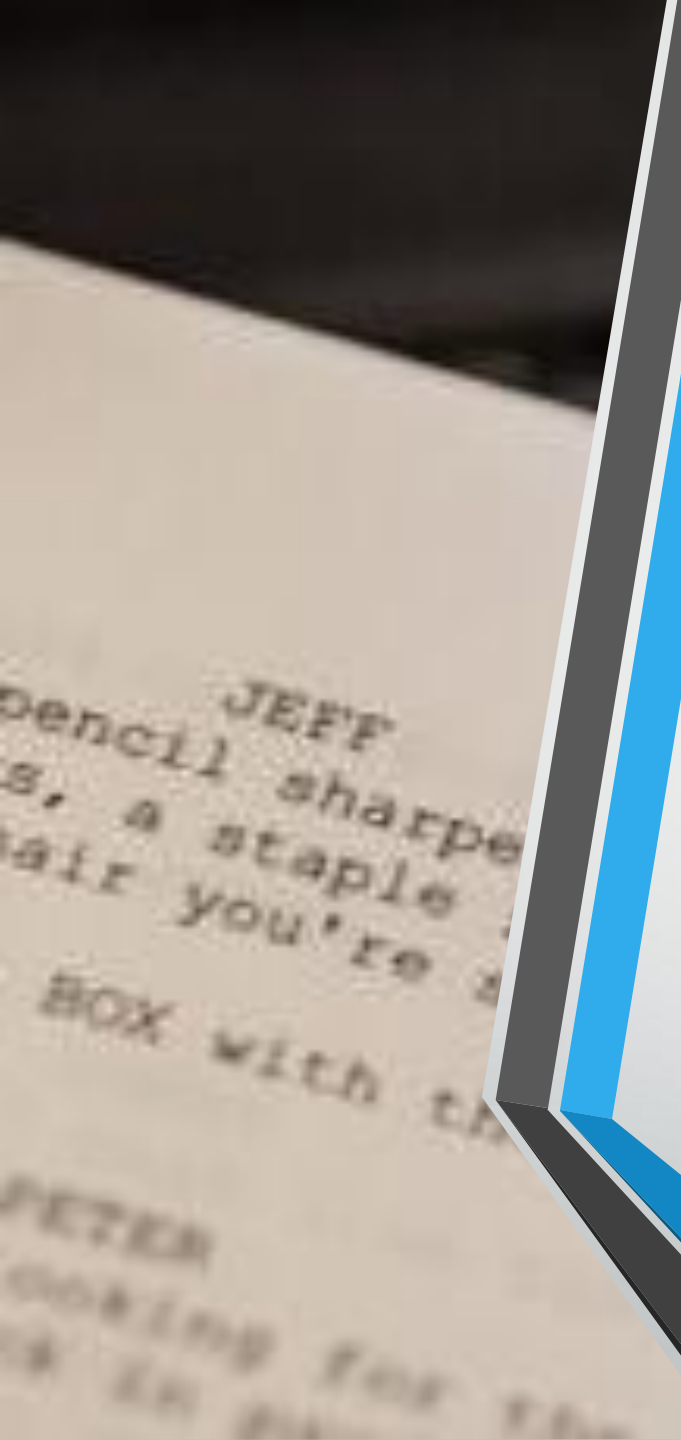

Learning is Emotional!


# "THE PAST IS PRESENT"

# RELEVANCE VS MEANING



# GOAL ORIENTATION



# SCHEMA THEORY

People weigh expectations in decision making:

- Task difficulty
- Effort outlay
- Outcome expectation
- Reward/punishment

**Personal expectations are better predictors of student success than ability**

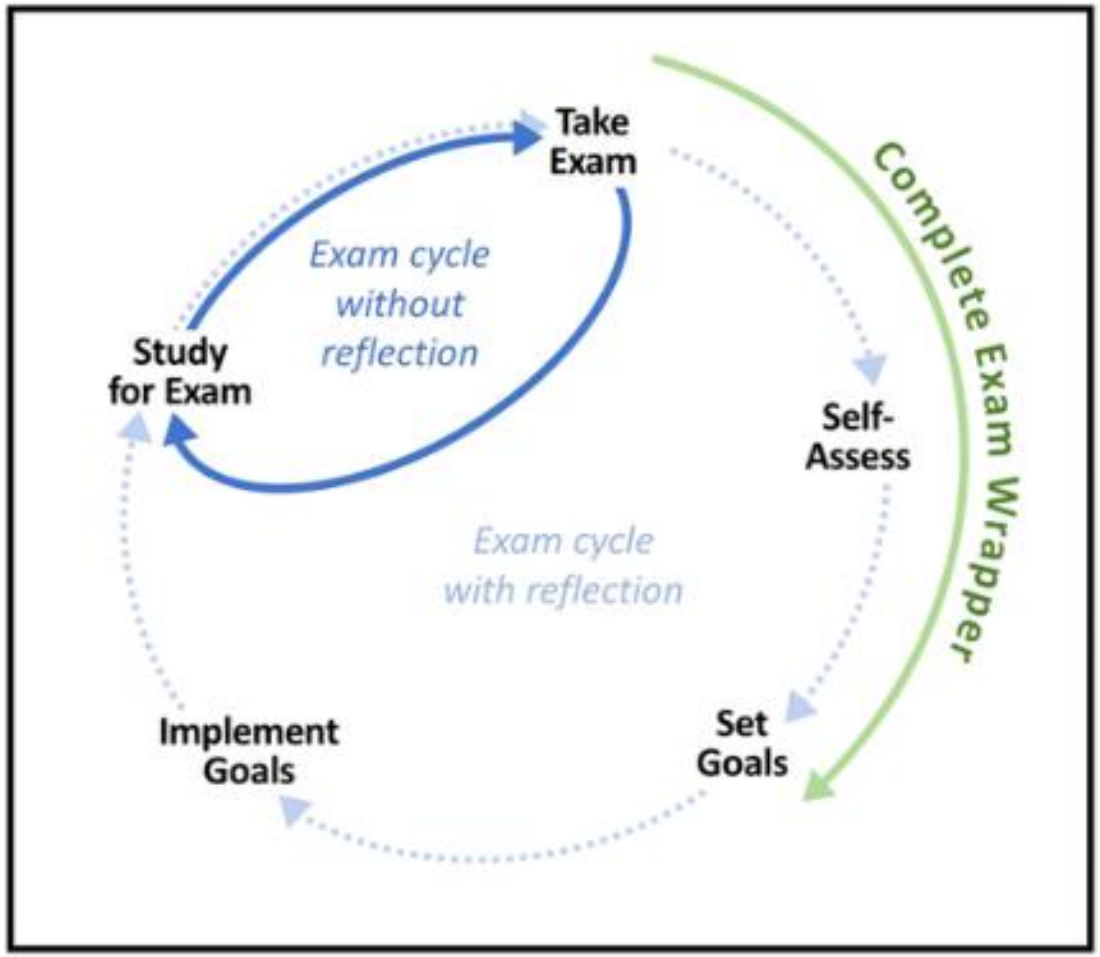
# STEREOTYPE THREAT

- "Stereotype threat refers to being at risk of confirming, as a self-characteristic, a negative stereotype about one's social group"
- ST decreases performance & increase self-defeating behavior


# SELF-REGULATION

# COGNITIVE INTERWEAVES

# EXAM WRAPPERS




(Gezer-Templeton, et al. 2017)

# EXAM WRAPPERS

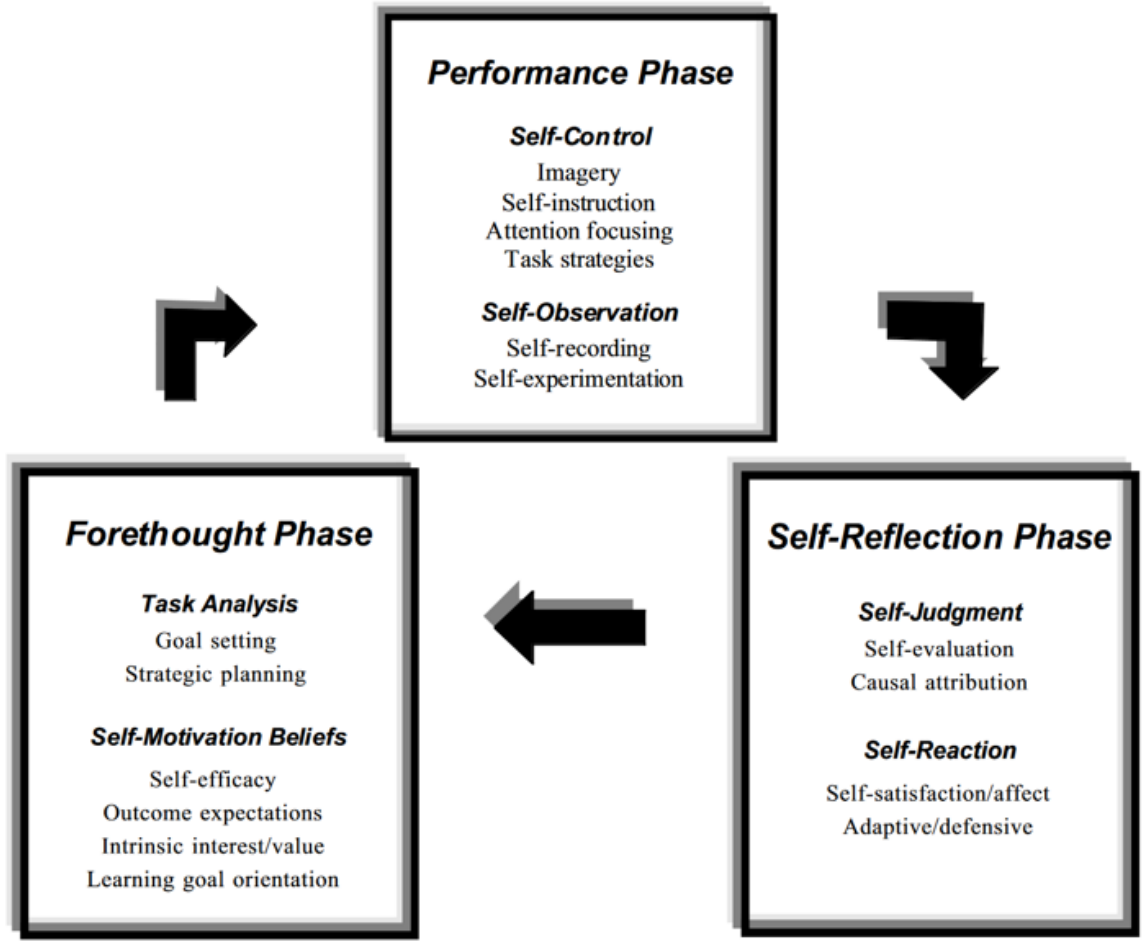
| Pre-Assessment | Post-Assessment |
| --- | --- |
| • How long did you study/work? | • What grade did you get? |
| • How much effort did you exert? | • How does this compare to what you expected? |
| • What process did you use to study/work? | • What can you do differently next time? |
| • What grade do you expect? | • What questions do you have? |

# Essay WRAPPERS

**Review the feedback provided and answer the following questions:**

- Which rubric outcomes are you passing?
- Which are you not passing?
- List each outcome that you are NOT passing, and then state how this can be corrected/fixed
- What questions do you have on fixing your essay?
- What is your plan revise your essay?

# REFLECTION ACTIVITIES




*(Zimmerman, 2002)*

# ENGAGEMENT TAKEAWAY

## **Relevant** and **Meaningful** Goals

- Interest
- Motivation
- Self-regulation

## **Develop metacognition**

- Frequent formative assessment
- Self-assessment & reflection
- Coaching & emotional support

Join at menti.com | use code 4986 7070

Mentimeter

# What does "multiple means of engagement" focus on?

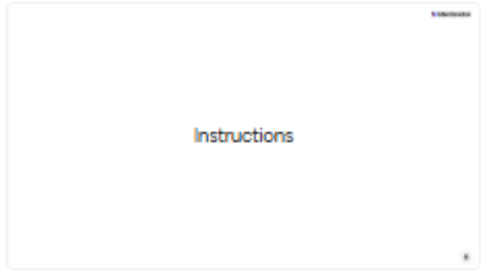
| 0 | 0 | 0 | 0 |
|---|---|---|---|
| Standard participation | Offering different ways to capture and sustain interest | Mandate attendance in class | Assigning group projects to all students |

TV

Menti

UDL: Using Inclusive De...

Choose a slide to present





# OPEN QUESTIONS?

Design Multiple Means of
**Action & Expression**

Design Options for
**Interaction**

Design Options for
**Expression & Communication**

Design Options for
**Strategy Development**

# WHAT IS EXPRESSION?

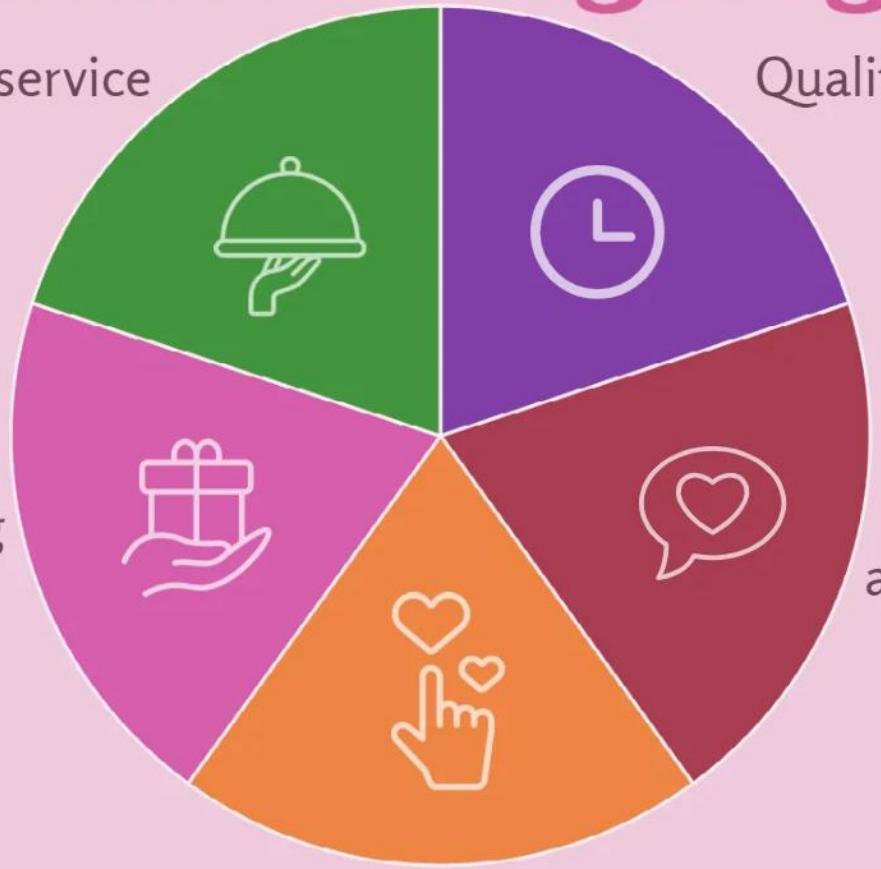
*"How do I provide options for communication?"*

# GOALS VS MEANS

*Goal = get fit by jogging*

*Goal = to get fit*

# 5 Love Languages



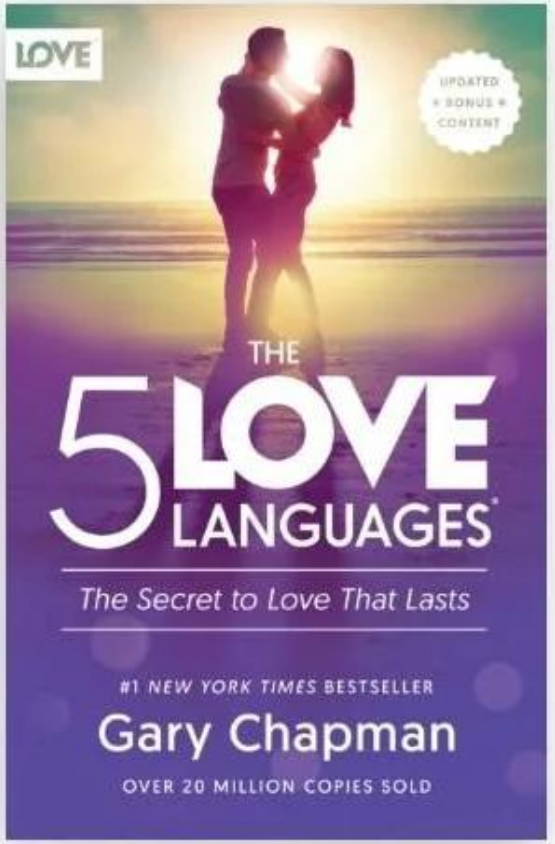
Acts of service

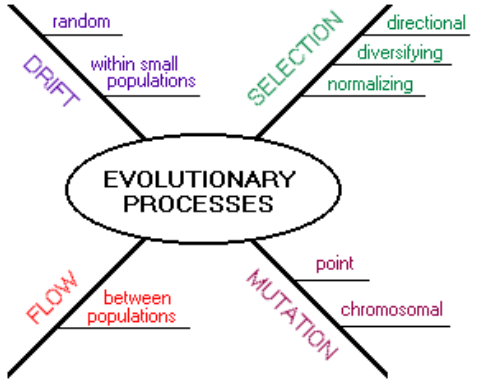
Quality time

Receiving gifts

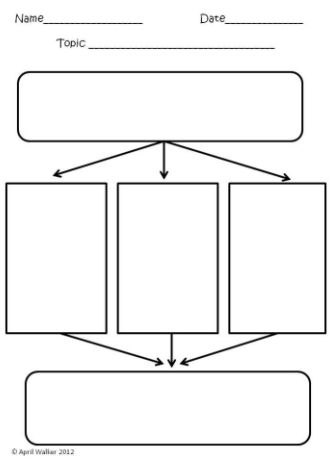
Words of affirmation

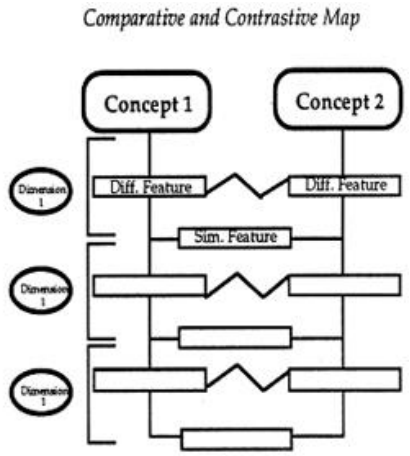
Physical touch






(D. Applegate, CAL)




# EXPRESSION MATTERS

# Universal Design for Learning

GOAL: _____

| REPRESENTATION (Input) *The "What?" of learning* | ACTION/EXPRESSION (Output) *The "How?" of learning* | ENGAGEME (Connection *The "Why?" of le* |
|---|---|---|
| **Options to see, hear and perceive information:** | **Options to do, move and interact:** | **Options to care, value and fin** |
| **Options to decode language, math, symbols:** | **Options to differentiate expression of knowledge:** | **Options to vary challenge anc** |
| **Options to make sense and understand knowledge:** | **Options to plan, strategize and initiate action:** | **Options to set goals and self r** |

| I. Provide Multiple Means of Representation: | Your notes |
|---|---|
| 1. Provide options for perception | |
| 1.1 Offer ways of customizing the display of information | |
| 1.2 Offer alternatives for auditory information | |
| 1.3 Offer alternatives for visual information | |
| 2. Provide options for language, mathematical expressions, and symbols | |
| 2.1 Clarify vocabulary and symbols | |
| 2.2 Clarify syntax and structure | |
| 2.3 Support decoding of text, mathematical notation, and symbols | |
| 2.4 Promote understanding across language | |
| 2.5 Illustrate through multiple media | |
| 3. Provide options for comprehension | |
| 3.1 Activate or supply background knowledge | |
| 3.2 Highlight patterns, critical features, big ideas, and relationships | |
| 3.3 Guide information processing, visualization, and manipulation | |
| 3.4 Maximize transfer and generalization | |
| **II. Provide Multiple Means for Action and Expression:** | **Your notes** |
| 4. Provide options for physical action | |
| 4.1 Vary the methods for response and navigation | |
| 4.2 Optimize access to tools and assistive technologies | |
| 5. Provide options for expression and communication | |
| 5.1 Use multiple media for communication | |
| 5.2 Use multiple tools for construction and composition | |
| 5.3 Build fluencies with graduated levels of support for practice and performance | |
| 6. Provide options for executive functions | |
| 6.1 Guide appropriate goal setting | |
| 6.2 Support planning and strategy development | |
| 6.3 Facilitate managing information and resources | |
| 6.4 Enhance capacity for monitoring progress | |
| **III. Provide Multiple Means for Engagement:** | **Your notes** |
| 7. Provide options for recruiting interest | |
| 7.1 Optimize individual choice and autonomy | |
| 7.2 Optimize relevance, value, and authenticity | |
| 7.3 Minimize threats and distractions | |
| 8. Provide options for sustaining effort and persistence | |
| 8.1 Heighten salience of goals and objectives | |
| 8.2 Vary demands and resources to optimize challenge | |
| 8.3 Foster collaboration and community | |
| 8.4 Increase mastery-oriented feedback | |
| 9. Provide options for self-regulation | |
| 9.1 Promote expectations and beliefs that optimize motivation | |
| 9.2 Facilitate personal coping skills and strategies | |
| 9.3 Develop self-assessment and reflection | |

# VARIABLE EXPRESSION

| | PRO | CON |
|---|---|---|
| True/False | | |
| Fill in blank | | |
| Matching | | |
| Speech | | |
| Essay | | |
| Short Answer | | |
| Poster Presentation | | |
| Case Studies | | |
| Discussions | | |

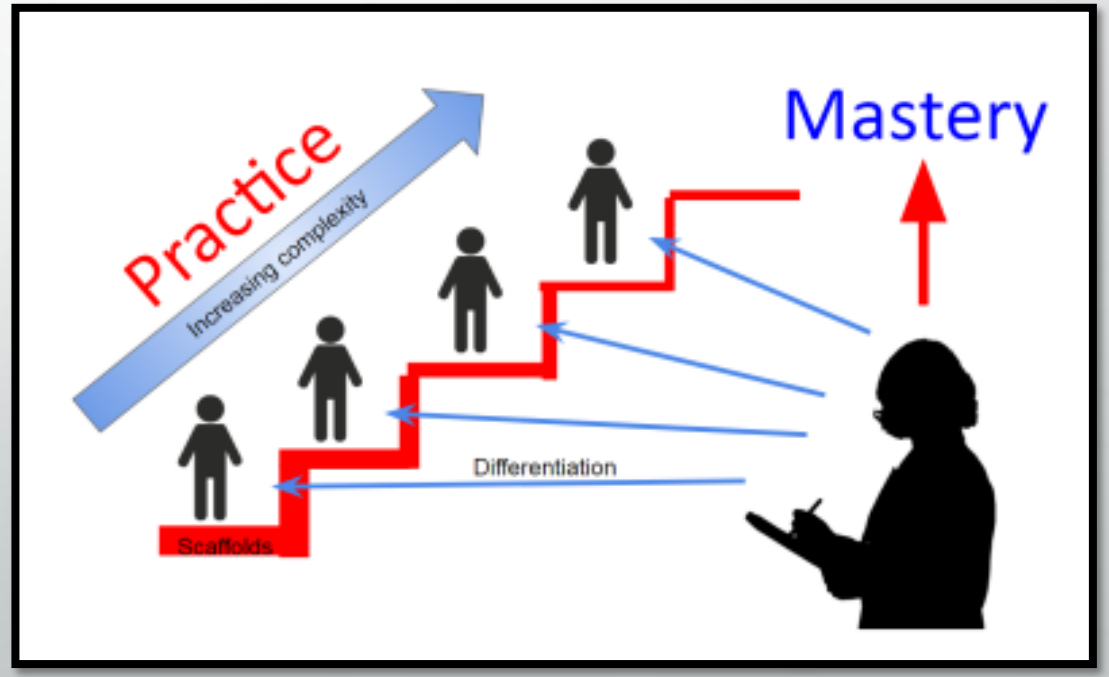
# FORMATIVE ASSESSMENT - Scaffolding

**Develop meaning first, and then revise for correctness last**

- Familiar to unfamiliar
- Simple to complex
- Multiple levels of difficulty

**Ask questions that are**

- textbased
- personal
- global



# BACKWARD DESIGN

Goal first

Variable modes of expression:

- Discussion boards
- Assignments
- Essays
- Surveys
- Quizzes
- Yuja

Multiple feedback opportunities

# EXPRESSION TAKEAWAY

Provide options for communicating knowledge, when possible

Separate goals from means

Promote formative practice before summative assessment

Join at menti.com | use code 4986 7070

Mentimeter

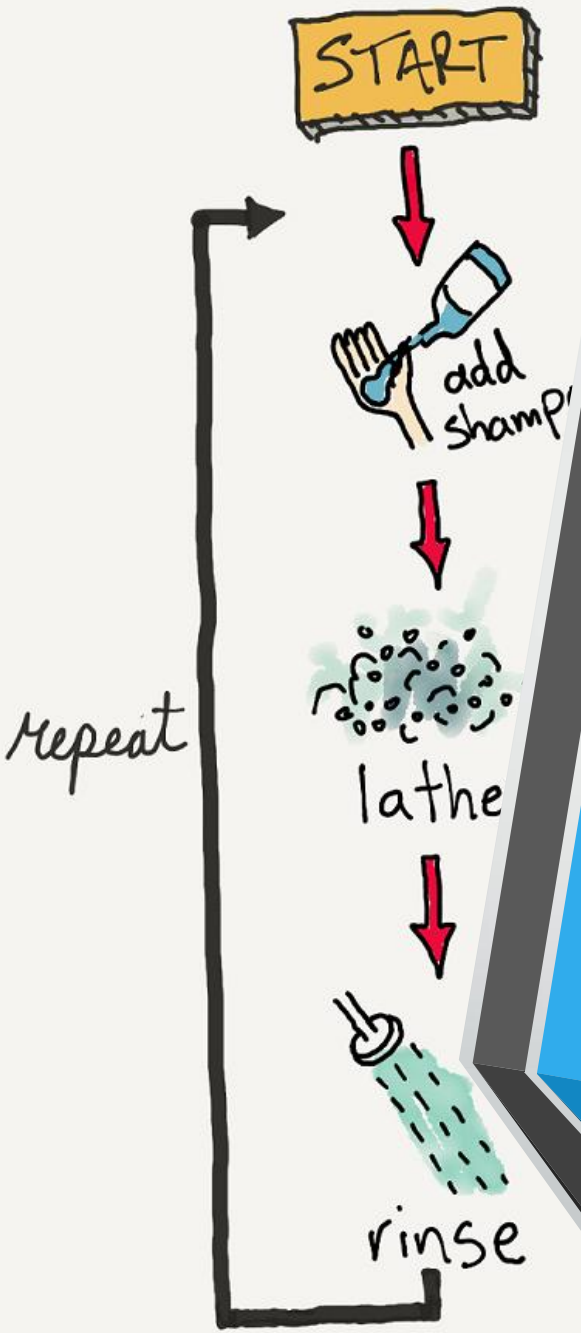
# Which example best shows "multiple means of action & expression"?

| 0 | 0 | 0 | 0 |
| --- | --- | --- | --- |
| Only allowing written tests | Giving oral tests to every student | Letting students choose between different options | Asking all students to present in front of the class |

Menti

UDL: Using Inclusive De...

Choose a slide to present




# TAKEAWAY= +1

Take 1 document and/or assignment and apply 1 UDL principle

- Assess
- Revise
- Apply 1 principle to another assignment
- Repeat

# OPEN QUESTIONS?

# RESOURCES

- www.CAST.org

- Bibliography
- zach.petrea@heartland.edu

# NEURODIVERSITY = DIVERSE ABILITIES

- Dyslexics are 3D visual thinkers
- Autistic are visual object identifiers
- Low print readers are high digital readers (& vice versa)

"Some guy with high functioning Asperger's developed the first stone spear; it wasn't developed by the social ones yakking around the campfire"

- Temple Grandin