



UDL: *From* Philosophy *to* Reality

CARS Conference 2019

WELCOME!

- ❑ Ginna Guiang-Myers
- ❑ 20 years of teaching and 10 in administration
- ❑ National Board Certified Teacher in Science
- ❑ PhD Psychology
- ❑ \$85,000 in debt
- ❑ gmyers@eurekausd.org
- ❑ Psych4Ed on Facebook





Welcome and Introductions

- I am a SpEd teacher.
- I am a GenEd teacher.
- I teach K-2 students.
- I teach 3-5 students.
- I teach 6-8 students.
- I teach 9-12 teachers.
- I am an administrator.

Learning Targets

Learners will be able to...

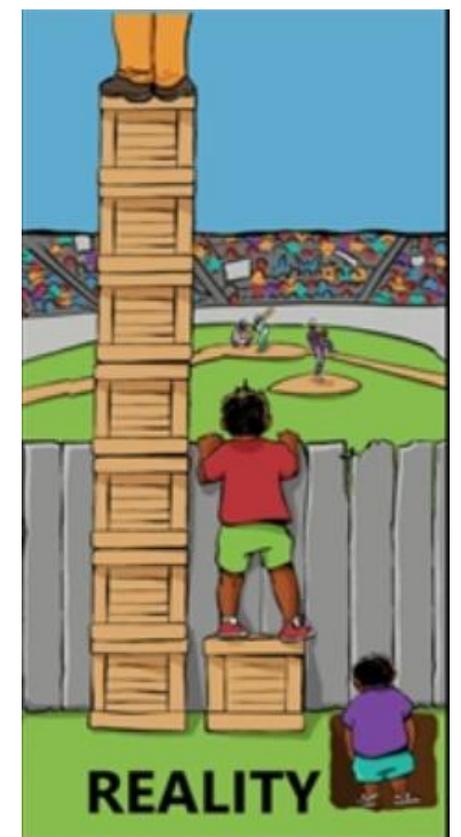
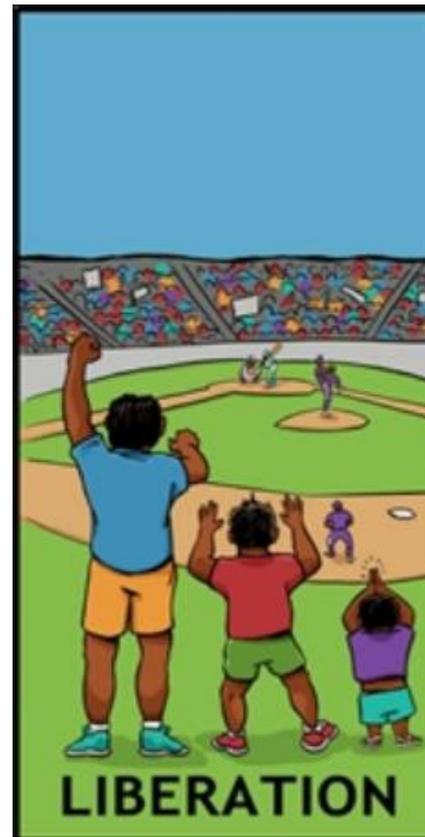
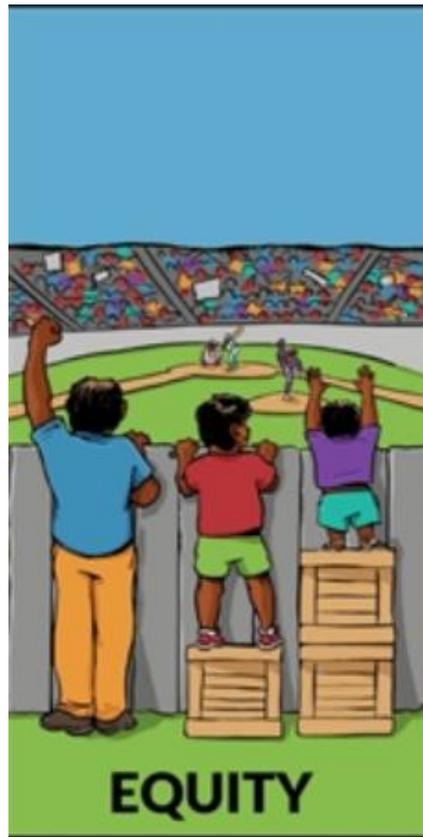
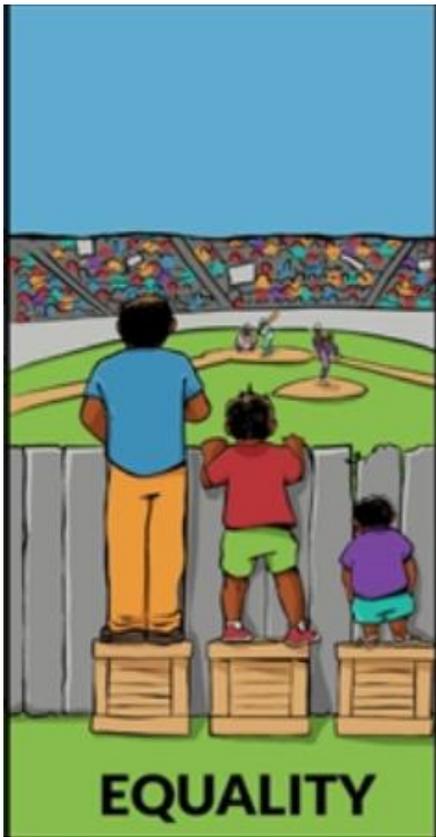
1. Explore UDL as an instructional framework.
2. Discover teaching strategies that are high-yield
3. Add to their teacher's toolbox 5 "tried and true" UDL/VL strategies





Diversity of Learners

- Sensory or physical disabilities.
- Emotional or behavioral challenges.
- Learning disabilities or reading difficulties.
- Autism spectrum disorders.
- Attention deficit hyperactivity disorder.
- Lack of appropriate background knowledge.
- English-language barriers.



UDL = Eliminating Barriers

What is UDL?

- An educational framework that guides the development of flexible learning environments that can accommodate individual learning differences (CAST, 2018).
- A way of thinking about teaching and learning that helps give all students an equal opportunity to succeed (Understood.org, 2019).



What is UDL?

“The design of instructional materials and activities makes the *learning goal* achievable by individuals with wide differences in their abilities.”

-Council for Exceptional Children

UDL IS NOT A
CHECKLIST OF
THINGS TO DO.
IT'S A NEW
LENS
FOR THINKING
ABOUT
EVERYTHING
[YOU] DO.

Essentially, pro-active lesson planning to meet the needs of diverse learners.

UDI...

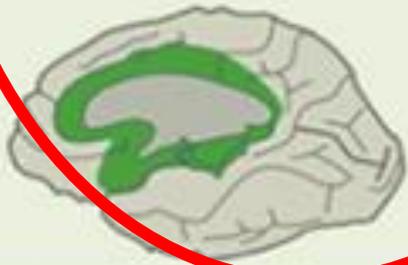
- Provides equal access to learning, not just equal access to information.
- Allows students to control the method of accessing information while the teacher monitors the learning process.
- Is designed to work with all students in a mainstreamed classroom where a range of student ability levels are present.



UDL Principles

Multiple Means of Engagement

Stimulate motivation and sustained enthusiasm for learning by promoting various ways of engaging with material.



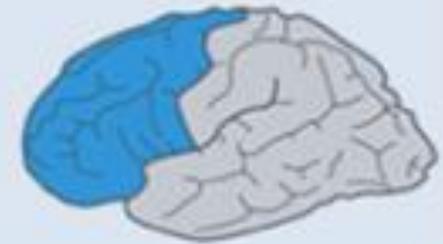
Multiple Means of Representation

Present information and content in a variety of ways to support understanding by students with different learning styles/abilities.



Multiple Means of Action/Expression

Offer options for students to demonstrate their learning in various ways (e.g. allow choice of assessment type).



Three Guidelines that align with the 3 networks

Universal Design for Learning

Recognition Networks

The "what" of learning



Strategic Networks

The "how" of learning



Affective Networks

The "why" of learning



1. How we present information so all students will "get it"

2. How students are asked to make meaning...

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

Stimulate interest and motivation for learning

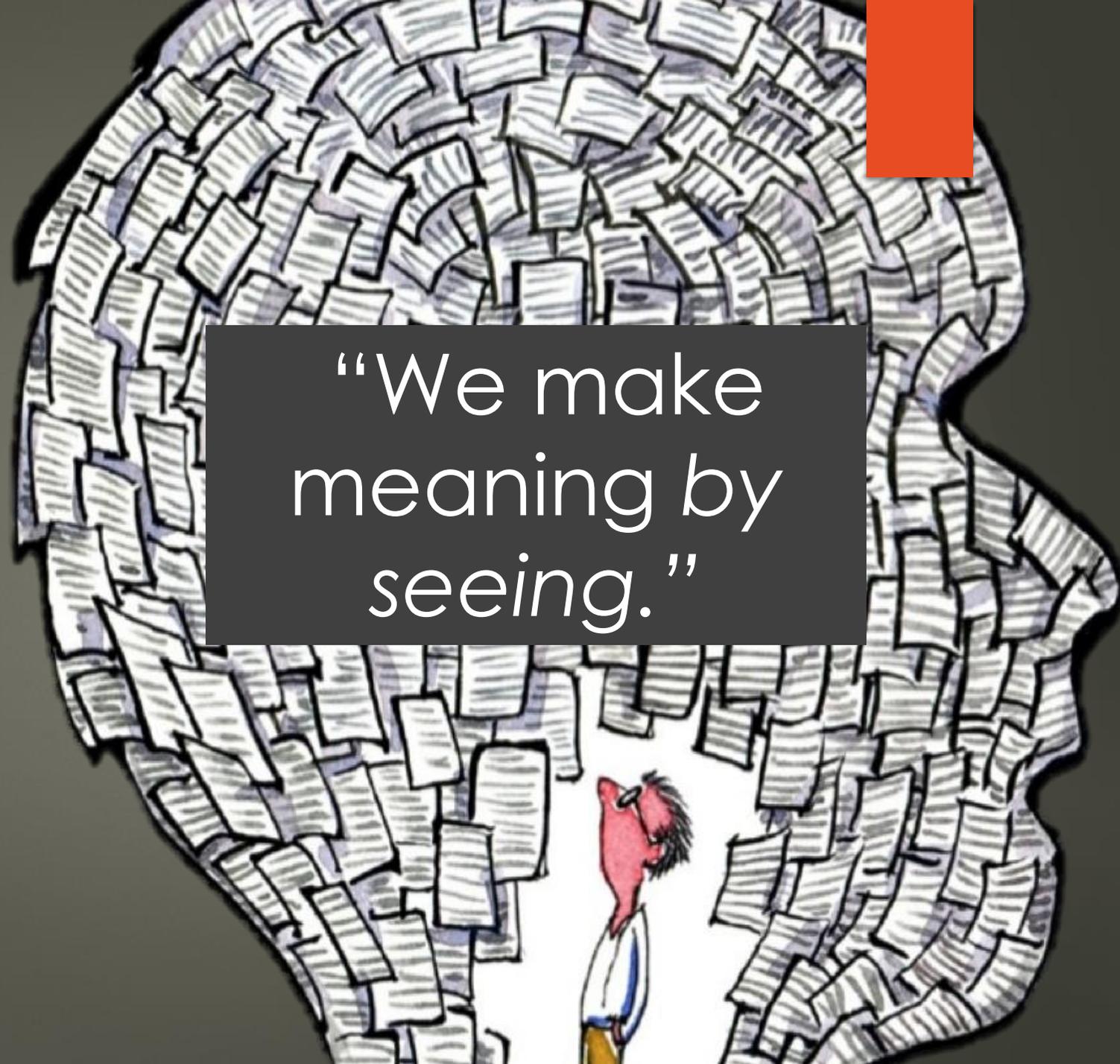
More ways to provide Multiple Means of Engagement

STRATEGY 1: RECOMPOSING

Mental image is
generated from
information
received...



Meaning



“We make
meaning by
seeing.”



The single *biggest barrier* that keeps students from learning is the *fixed medium* of presentation and regurgitation of knowledge.

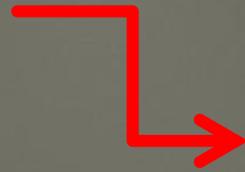
Recompose.



Read/listen some
text/s.

Make notes.

Use notes to write
conclusion.



Read/listen text.

Summarize as a diagram

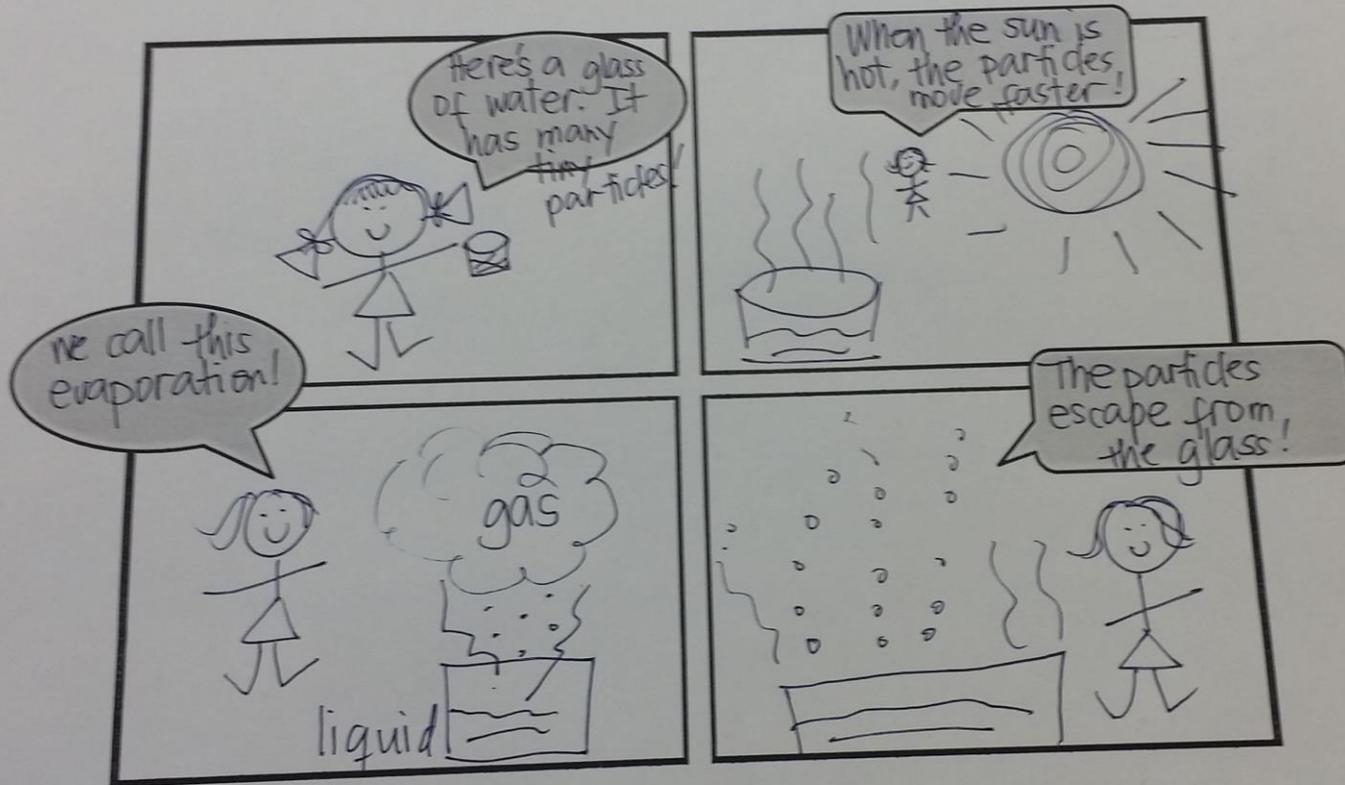
Use diagram to write
conclusion.

Let's try it!

Sketchnoting

This landform is actually a mountain that opens downward to a pool of molten rock, called magma, below the surface of the earth. When pressure builds up, eruptions occur. Gases and rock shoot up through the opening and spill over or fill the air with lava fragments. Eruptions can cause lateral blasts, lava flows down the sides of the mountain, mudslides, avalanches, falling ash and floods. These eruptions have been known to knock down entire forests. Additionally, tsunamis (huge killer waves in the ocean), flash floods, earthquakes, mudflows and rockfalls.

Cartoon Note Taking Template



What is evaporation?

Students can make meaning out of a simple lesson by creating a cartoon.

Video: <https://www.youtube.com/watch?v=gY9KdRfNN9w>

Interactive Notebook

MATTER

Properties look like acts

Solid

definite shape
takes up space

Liquid

no definite shape
takes up space

Gas

spreads out to fill the container
invisible / float

Forms of Matter

Class-Orderly Solar Physical Science

Everything around you is made of matter. Scientists group matter based on its properties, or characteristics, what it looks like and how it acts in different situations. Matter can take three different forms. The three forms are solid, liquid, and gas.

Solid matter has a definite shape. It also takes up a definite amount of space. This means it has a specific volume. If you could look at solid matter under a very powerful microscope, you would see its tiny particles moving back and forth. The particles are packed together, so they vibrate in place. Their overall shape does not change.

Liquid matter takes the shape of its container. When liquid is in a cup, it is shaped like the cup. When the liquid is in a vase, it is shaped like the vase. The volume of the liquid stays the same. If you were to look at liquid matter under the microscope, you would see its tiny particles sliding past each other. Because of this unique sliding movement, the liquid is able to change its shape as we can pour it.

In the form of a gas, matter is usually invisible. The air around us has several different gases, like the oxygen we breathe in and the carbon dioxide we breathe out. If you could look at gas matter under the microscope, you would see its tiny particles floating around with lots of space in between them. They spread out to fill any container the gas is placed in.

EXPLORING A LOVE METAPHOR

<p>Love is a chocolate fountain that never runs out</p> <p>Detail - The strawberries you dip in and eat are as a red as a beating heart.</p> <p>Detail - The fountain is never dry, always pouring love. You have to keep the chocolate flowing.</p>	<p>Love is a wild bear in a swimming pool</p> <p>Detail - Swimming pool is like a wild bear, but love is like a chocolate pool.</p> <p>Detail - The wild bear has a heart as big as the swimming pool.</p>
<p>Love is a stinking cricket</p> <p>Cricket → Stink</p> <p>Detail - People in love are often washed by spiders who might leak an unpleasantness.</p> <p>Detail - Spiders taking the risk (of love) to save you have built a safety net.</p>	<p>Love is an ant hill underneath a swing set</p> <p>Detail - Ant hill is a dangerous place for ants who work together with their love.</p> <p>Detail - If you are really in love, you don't see in fear of being kicked.</p>

A word about representations...

- ▶ Physical
 - ▶ Visual
 - ▶ Contextual (Story)
 - ▶ Verbal/Text
- } ▶ Symbolic (formulas)

18 tenths + 3 tenths + 32 hundredths



2.42

Detour: Barrier to learning...

Psychological Science

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Visual Environment, Attention Allocation, and Learning in Young Children

When Too Much of a Good Thing May Be Bad

[Anna V. Fisher](#), [Karrie E. Godwin](#), [Howard Seltman](#)

First Published May 21, 2014 | [Research Article](#)

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Altmetric 336



Abstract



[Psychonomic Bulletin & Review](#)

April 2015, Volume 22, [Issue 2](#), pp 461–468 | [Cite as](#)

Susceptible to distraction: Children lack top-down control over spatial attention capture

[Authors](#)

[Authors and affiliations](#)

Nicholas Gaspelin , Tessa Margett-Jordan, Eric Ruthruff

Brief Report

First Online: 19 August 2014

2

Shares

489

Downloads

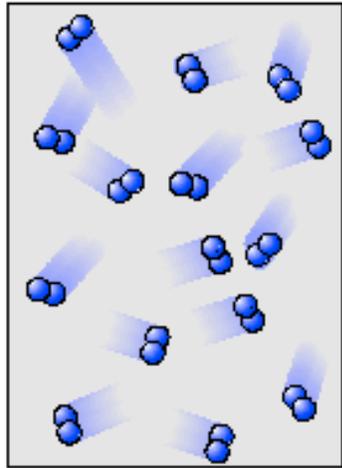


2. Gestures

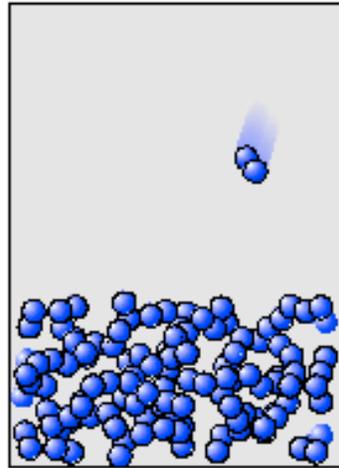
- Gestures are the precursors to the evolution of language. Even baboons gesture. Even blind people gesture.
- Gesturing is strongly correlated to cognitive processing; impacts memory retention and recall.
- Make sure that gestures are ancillary to language (not replacing).



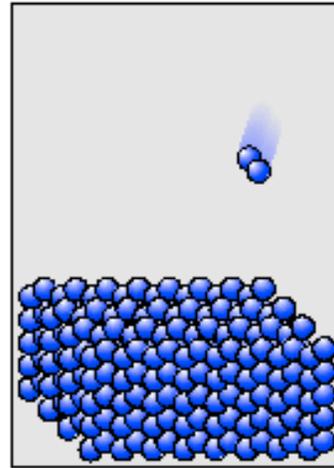
States of Matter



gas
disorder



liquid
*short range
order*



solid
*long range
order*

Make your gestures intentional.

Learning is impossible if information is imperceptible to the learner, and difficult when information is presented in formats that require extraordinary effort or assistance (CAST, 2012).

Gestures in Teaching

- What concepts can you teach by pegging gestures to the concept?
- How will you teach the gestures?
- Classifying ideas, concepts, etc.



Somebody: Who is the main character?

Wanted: What did the character want?

But: What was the problem?

So: How did the character solve the problem?

Then: How did the story end?



3. Summarization & Concept Mapping, .79 & .64

>> Summarizing

- Consolidate, synthesize information
- Actively process information
- Retention of knowledge
- Rehearse and practice skills



SUMMARIZATION - SCAFFOLD

Non-Fiction

1. Something (independent variable)
2. Happened (change in that independent variable)
3. And (effect on the dependent variable)
4. Then (conclusion)

Fiction

1. Somebody (characters)
2. Wanted (plot motivation)
3. But (conflict)
4. So (resolution)
5. And (conclusion)



Dear Absent Student...

Dear Absent Student,

Today, we learned about _____ . Three things that are important to remember about this topic are

_____, _____, and

_____. Examples of _____

included: _____ and _____.

One important thing to remember about the lesson today is

_____.

Hope you feel better!

LESSON CLOSURE

Today's lesson.....

.....

NAME

..... . One key idea was

.....

"Sum

..... . This is important because

..... . Another key idea

.....

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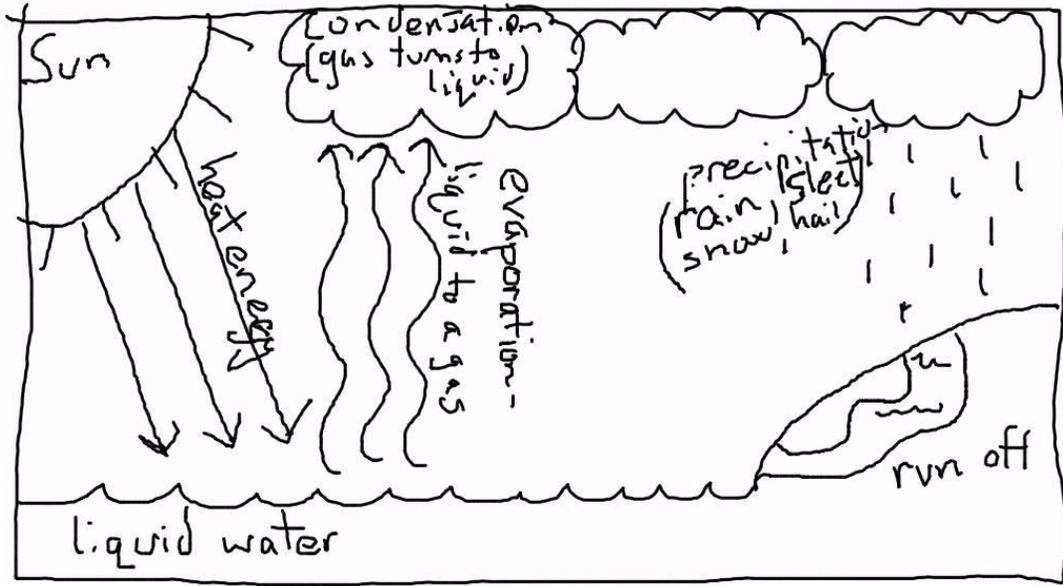
..... . This matters because

.....

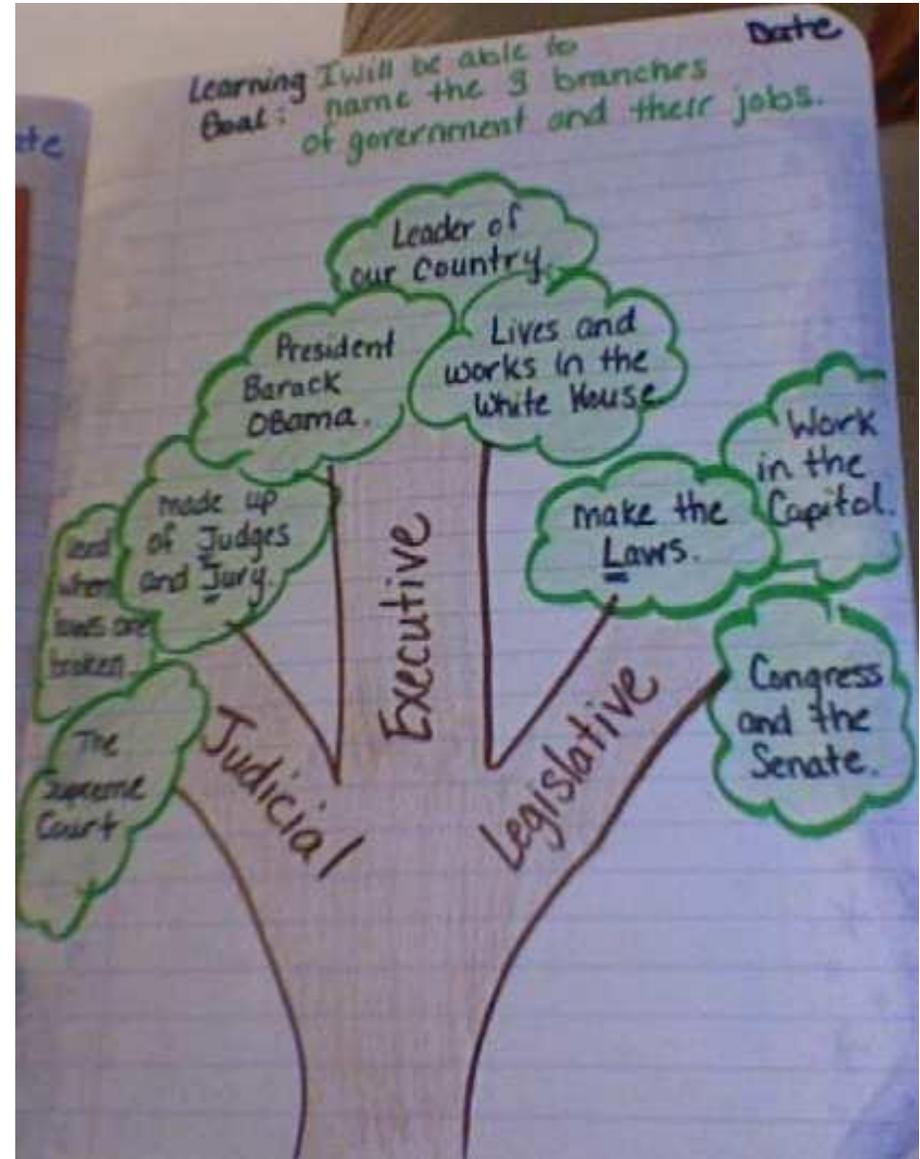
..... . In sum, today's

from Pat Widdowson
County (NC) Schools

ReadingQuest
readingquest.org



**Ink your
Think!**





Graphic Organizer
Input Chart - GOLF
"visual syllabus"

Our Tilted World

ELD
Oral Review

Word Card Review

7 continents

magnet

north pole
axis

Arctic Ocean

pass

2 main forces

gravity



1. North
North America



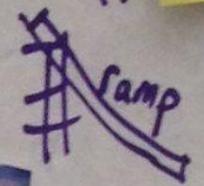
Europe



4. Asia

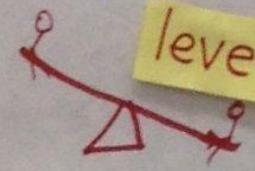


inclined plane



slide

lever



5 oceans

1. Pacific

Pacific Ocean



2. Atlantic

Atlantic Ocean



South America



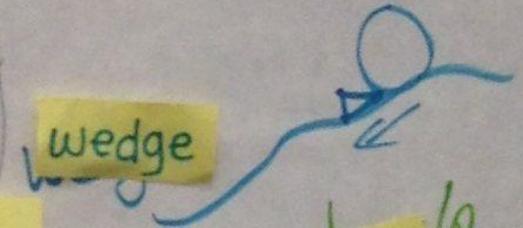
5. Africa



3. Indian

Indian Ocean

wedge



5. Southern Ocean



wheel and axle

Word Card



Think of summarizing as a mirror: reflective of our student's learning, and therefore, of our teaching.

Example:

Dear Absent Student Letter

Want more? Go to:

<https://tinyurl.com/Summarization-FoShizzle>



Strategy 4: Challenge minimax.

- Effect size ($d = 1.44$)
- Students are very good at predicting their scores or grades.
- Student expectations are based on the *principle of minimax* – “doing just enough, maximum grade for minimal effort.”
- BLUF: Every learning task should align with an established success criteria that sets high expectations.

Does this board inspire confidence or anxiety?

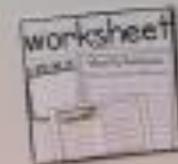
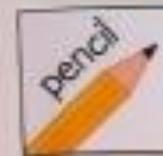
Do I know what is expected of me?

How can we make our boards better?

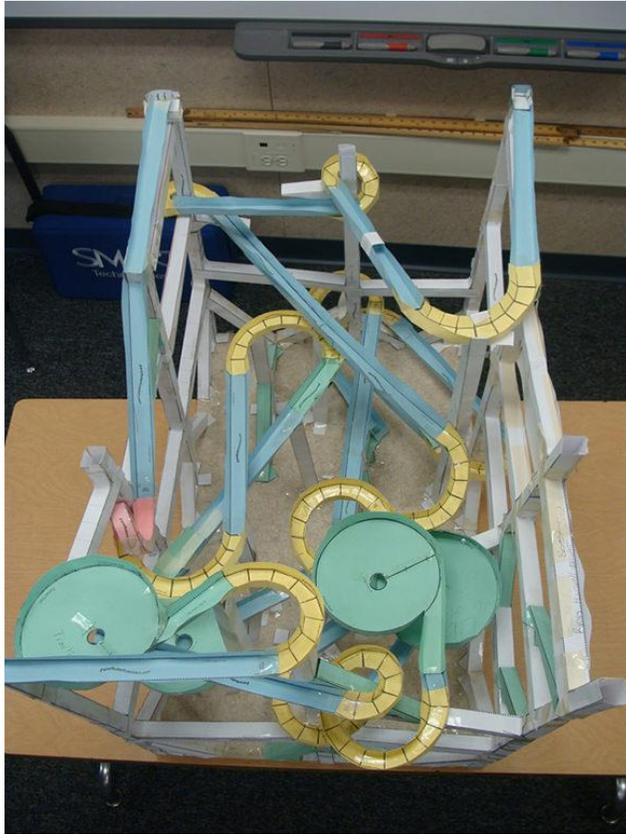
Agenda

1. Turn in Spelling Homework
2. Spelling Test
3. Finish Plot Activity with "Eleven"
4. Four Types of Sentences

Today for class you will need:



Strategy 1: Learning Target & Success Criteria



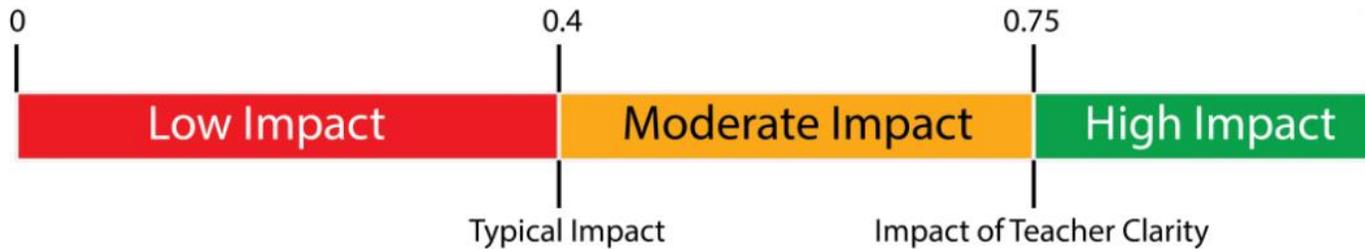
 I can read and write numbers up to 1,000.

0	1	2	3	4
I can read numbers up to 100, but I can't write numbers.	I can read and write numbers in standard form, but I am not sure about other ways. 253	I can read and write numbers in 2 ways, but I need help with the third way. 253 two hundred fifty-three	I can read and write numbers up to 1,000 in 3 ways: 253 two hundred fifty-three 200+50+3	I can use what I know at level 3 to read numbers that are greater than 1,000. I can write them in creative ways. 20,503 twenty thousands five hundreds three ones

What does success look like?

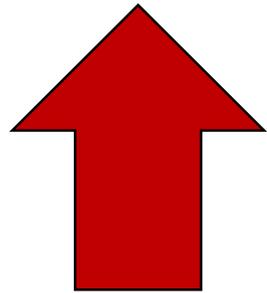
Teacher Clarity

Effect size: 0.75



- Clear teaching helps students to progress 9 months further than students whose teachers did not have high levels of teacher clarity.
- Clarity in:
Organization,
Explanation, Examples
& Guided Practice,
Assessment of
Mastery

Teacher Clarity, 0.75 ES



Collective Teacher Efficacy, 1.57

Donohoo (2016): “When teachers believe that together they and their colleagues can impact student achievement, they share a sense of collective efficacy.”

CTE is the combined belief that it is US that causes learning.

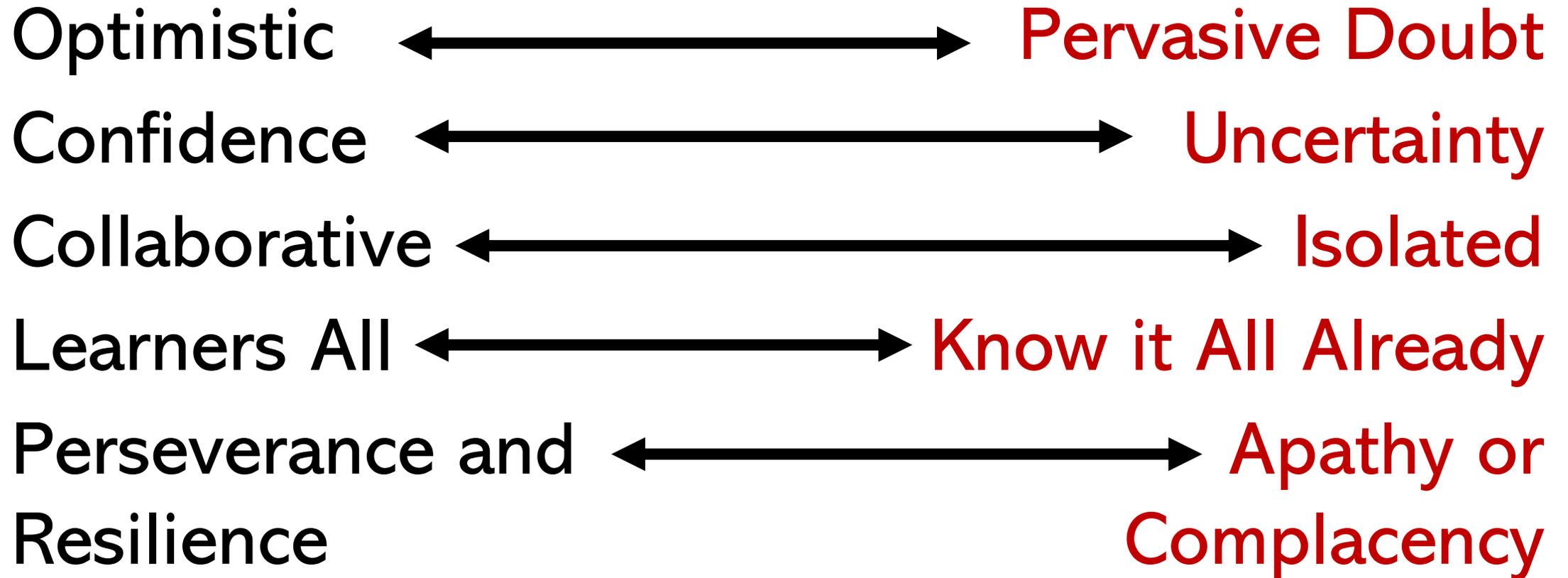
Education’s holy grail.



CTE Continuum

Low

High



OOPS!

Opened
Opportunities *to*
Pause *and*
Self-think



Similarities

Differentiated Instruction (DI)	Universal Design for Learning (UDL)
Content: Provides options for accessing high-quality curriculum. Emphasizes teacher clarity about the learning goal.	Representation: Provides options for acquiring and comprehending information. (UDL principle 1)
Process: Provides options, at the right level of challenge, for practicing, applying, and generalizing new knowledge, understandings, and skills.	Engagement: Provides options that tap into learners' interests and provides appropriate challenge to increase engagement. (UDL principle 3)
Product: Provides options to demonstrate learning.	Expression: Provides options to demonstrate learning. (UDL principle 2)

- High Expectations for All Learners
- Access to Academic Standards for All Learners
- Increased Student Achievement for All Learners