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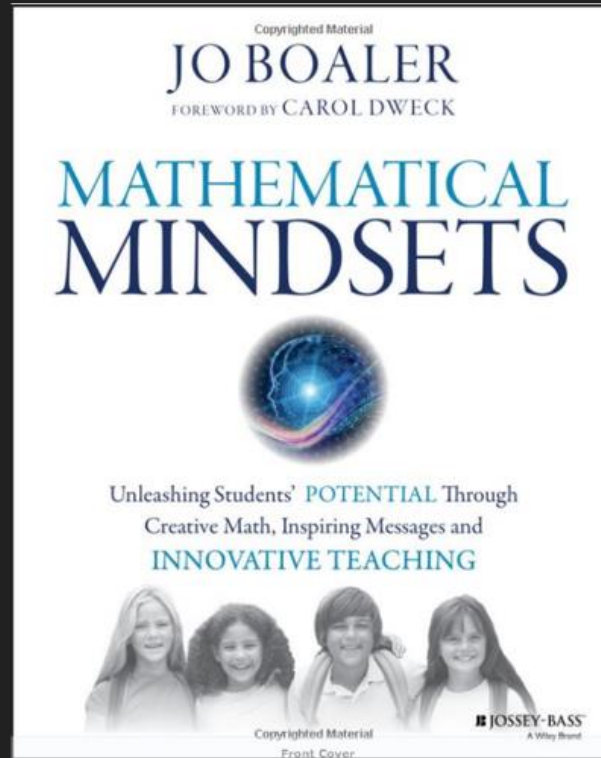
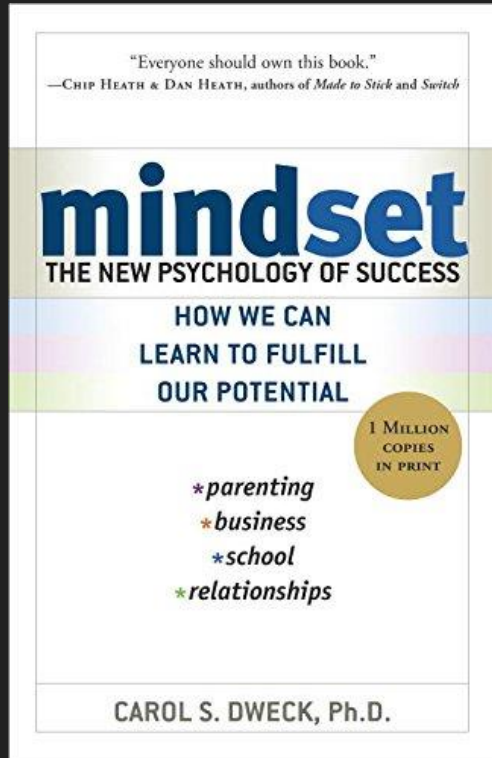
Presenters:

Bruce McComas  
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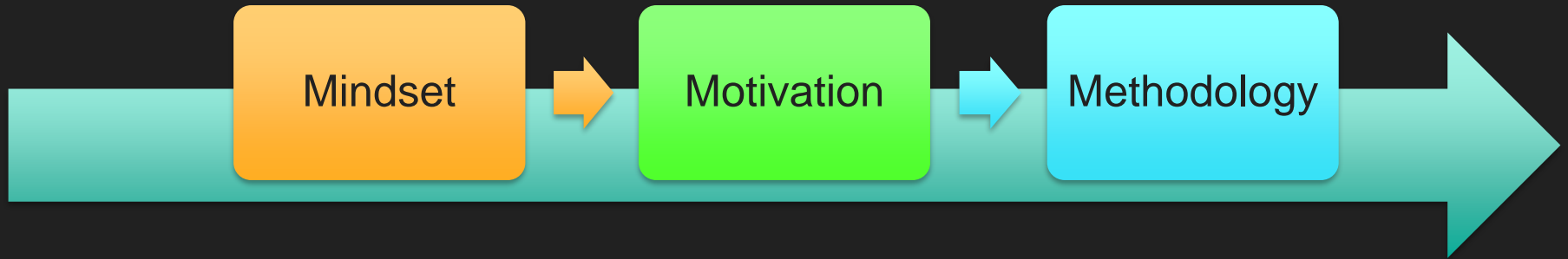
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Mindset Matters: Changing the mindsets of struggling students

# Carol Dweck and Jo Boaler



# Framework

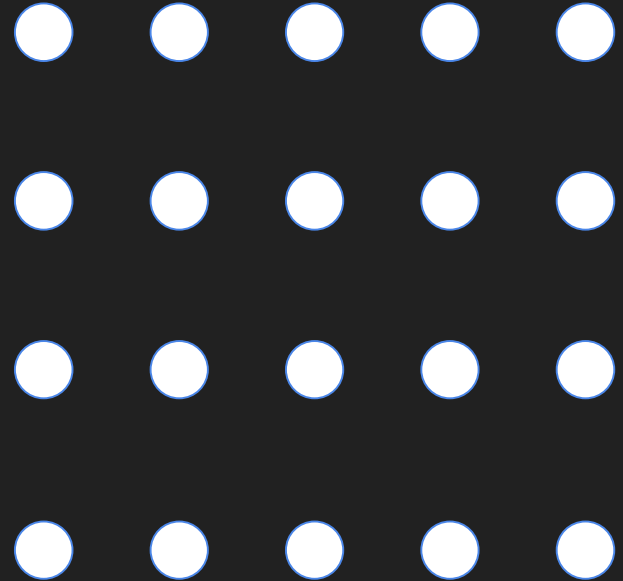


# Mindset – Agree or Disagree

Disagree

Agree

1. Your intelligence is something very basic about you that you can't change very much.
2. You can learn new things, but you can't really change how intelligent you are.
3. No matter how much intelligence you have, you can always change it quite a bit.
4. You can always substantially change how intelligent you are.



# What is a Growth Mindset?

“A growth mindset is the understanding that personal qualities and abilities can change. It leads people to take on challenges, persevere in the face of setbacks, and become more effective learners.”

# What is a Fixed Mindset?

“A belief system that a person has a pre-determined amount of intelligence, skills, or talent.”

Dweck, 2006

# Dweck's Research

#1 Goal

Look Smart

versus

Learn at all times

# Dweck's Research

## #2 Effort

If you have ability, you shouldn't need effort.

Trying is the first step toward failure. Homer Simpson

OR

Work hard – Effort is key. (Effort activates abilities). Even geniuses have to work hard.



# Dweck's Research

## #3 Setbacks

Hide mistakes and deficiencies

OR

Capitalize on mistakes and confront deficiencies

Are errors something to learn from or to flee from?

# Changes in Fixed and Growth Mindsets Across Grade Levels

“Studies have shown that many students enter middle school with the belief that we are all born with a specific, set-in-stone intelligence level or fixed Mindset.”  
(Dweck, 2010)

# Changes in Fixed and Growth Mindsets Across Grade Levels

Ricci asked: Where does this start? Surveyed classrooms: high-poverty, diverse and one with middle-class students. With every increase in grade, more students believed that intelligence was a fixed trait. (Ricci, 2013)

Grade	Fixed MindSet	Growth Mindset
K	n/a	100%
1	10%	90%
2	18%	82%
3	42%	58%

# Main Features of Growth Mindset

- ★ Recognize that your brain can change.
- ★ Embrace and celebrate failure.
- ★ Don't give up.
- ★ Believe in your ability to learn and grow.

1: Recognize that your brain can change.

# Video: The Brain is a Muscle!



<https://www.youtube.com/embed/EIVUqv0v1EE>

2: Embrace and celebrate failure.

# Mistakes = Learning

World-  
renowned  
scientist  
Neil  
DeGrasse  
Tyson





# Video: Disney's Meet the Robinsons: You failed!



<https://www.youtube.com/embed/AWtRadR4zYM>

# Let's Be Real

Creating a culture that celebrates mistakes is **HARD WORK**, because we don't like making mistakes.

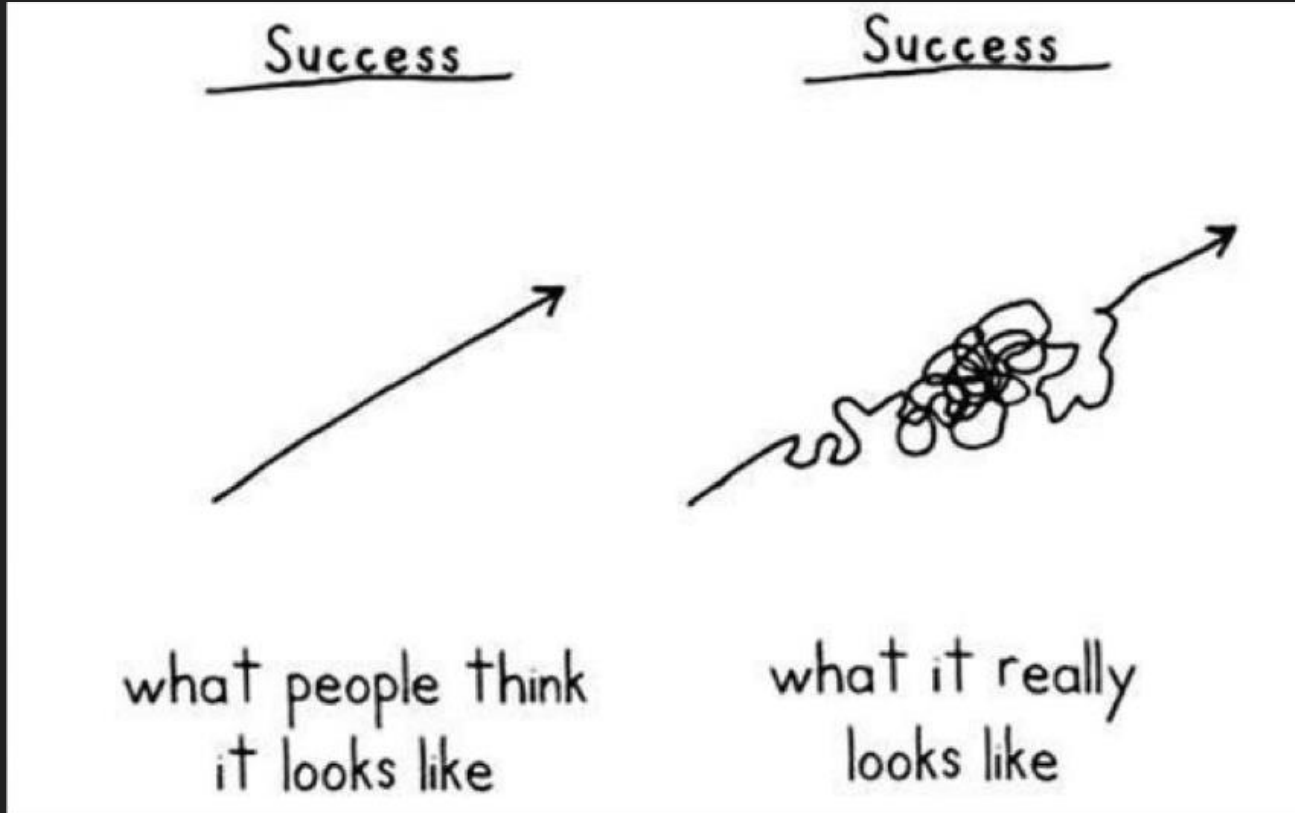
**Activity:** What is your mindset for mistakes?

What happens when you make a mistake?

How do you react when students make mistakes?

What is the 'take away' message for mistakes in your classroom?

Development is not a straight line.



3: Don't give up.

#1 CCSS Standard for Mathematical Practice:

Make sense of problems and persevere  
in solving them.

# Effort is Only a Part of the Perseverance Puzzle



## A Hidden Barrier: Why don't some students like to read?

The daddy longlegs is an insect that looks odd. It has really long legs compared to its body size. These long, slim legs seem very clumsy and they are so slender they can break off easily. Yet, they are quite useful in walking over grass in fields where it often makes its home. This insect uses two of its eight legs as feelers. It jiggles them about in the air to help in choosing where to travel. It eats both liquid and solid food and likes small insects and plants. Many people dread this insect, but it neither bites nor stings. It uses its scent for defense when scared. It protects itself by releasing an unpleasant odor.



## After One Semester of *Reading Plus* Intervention

People have always wanted fresh food all year long. No one ever thought of preserving food by freezing until 1914 when Clarence Birdseye stumbled on the idea while on a fur trading expedition. He saw that trappers preserved meat by freezing it outdoors. Oddly enough, meat frozen on the coldest days was more tasty when finally thawed and eaten. A microscope showed that meat frozen slowly was pierced by ice needles, thus reducing its quality. To freeze food quickly, Birdseye built a machine which used cold salt water. All types of meat, vegetables, and fruit were put between chilled metal plates and frozen. The idea was an immediate success. The Birdseye name is now well known all over America.

## Video: Carol Dweck and The Power of YET

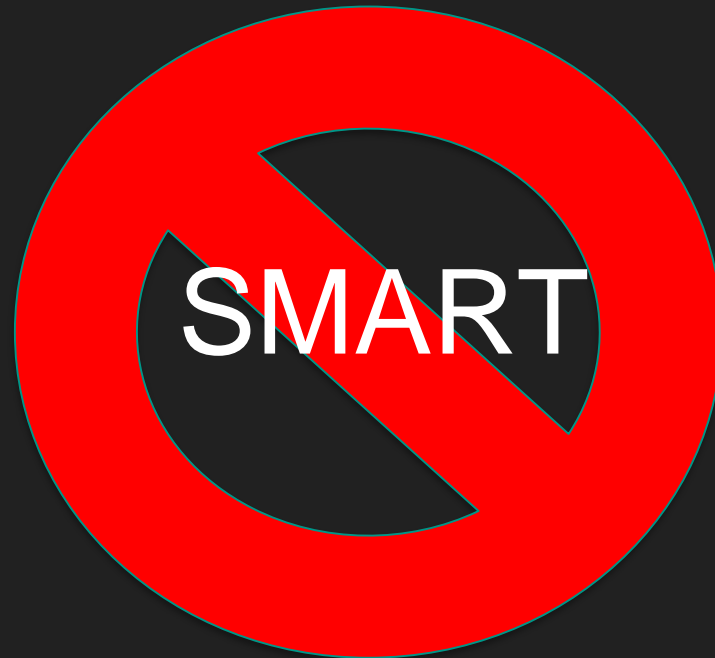


<https://www.youtube.com/embed/ZyAde4nIIm8>

# Alternatives to common phrases in the classroom:

Instead of...	Try this...
"I'm not good at this."	"What am I missing?"
"I'm awesome at this."	"I'm on the right track."
"I give up."	"I need another strategy, or maybe a classmate's help."
"This is too hard."	"This may take some time and effort."
"I'll never be as smart as her."	"I'm going to figure out what she does and try it."
"Here's the answer."	"Okay, let's discuss your solution. Justify your thinking."

PRAISE EFFORTS  
NOT SMARTS



# ***PRAISE***



***VS***



*A STUDY BY CAROL DWECK*

<https://youtu.be/NWv1VdDeoRY>

4: Believe in Your Ability to  
Learn and Grow.

# Everyone Can Succeed in Math

“The new evidence from brain research tells us that everyone with the right teaching and messages can be successful in math, and everyone can achieve at the highest levels in school.”

# Believe in Your Ability to Learn and Grow

Boosting Math Video:

<https://youtu.be/bxrPy1fjVU4?t=2m15s>

How to Learn Math – Free Course

Dr. Jo Boaler, Stanford University

Access Resources at : [Youcubed.org](https://www.youcubed.org)





# The Teaching Channel: Highlighting Mistakes: A Grading Strategy.

Activity: Practice looking for the growth mindset. Write down 3 observations and/or 3 statements to share with others.

[Teaching Channel](#)

# Circling Back: Mindset – Decide if you mostly agree or disagree.

1. Your intelligence is something very basic about you that you can't change very much.
2. You can learn new things, but you can't really change how intelligent you are.
3. No matter how much intelligence you have, you can always change it quite a bit.
4. You can always substantially change how intelligent you are.

Questions 1 & 2 reflect a fixed mindset. Questions 3 & 4 reflect a growth mindset.

What Do Our Struggling Students Have in Common with these Explorers?



© Vladimir Pushkarev/The Siberian Times

# You are the Key to Success!

To encourage a growth mindset in your students, you can:

- ★ teach them how their brains work and grow.
- ★ embrace mistakes.
- ★ help them stick with hard tasks and not give up.
- ★ reinforce the ability to learn and grow.



We are your partners in this goal.