

**GROWTH MINDSET**



FLEX Day  
October 24, 17

Ashley McHale,  
Elena Cole,  
Paula Schoenecker,  
& Kristy Woods

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**GROWTH MINDSET**

**AGENDA**

This will be an interactive session that explores the following themes:

- Introduction to Growth Mindset and Brain Research
- How can we help students to apply a Growth Mindset to their lives?
  - Specifically we will look at how we can infuse Growth Mindset into our classrooms and interactions with students, through our language, classroom interactions, grading and more.
  - Mini-case studies can engage students around difficult topics and help students apply a growth mindset before they struggle. We will explore some beta case studies developed by the Math Department and create some of our own to use with students.

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**INTRODUCTION TO  
GROWTH MINDSET AND  
BRAIN RESEARCH**

Part One

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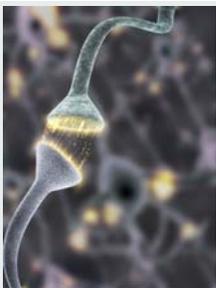
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**GROWTH MINDSET & BRAIN RESEARCH**



How the Brain Learns  
a video

<https://youtu.be/cCwCjNa3oBI>

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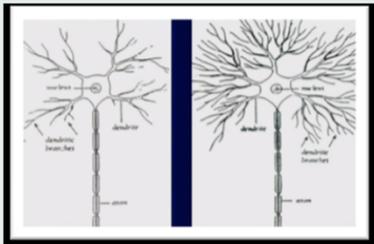
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**GROWTH MINDSET & BRAIN RESEARCH**



**Neural Plasticity:** the physical changes, including the growth of neurons, which occur in your brain when you learn something new.

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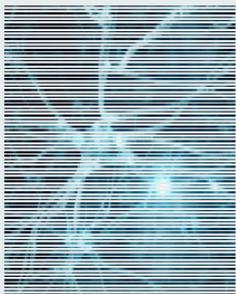
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**GROWTH MINDSET & BRAIN RESEARCH**



In your brain, after you create a new neural pathway, you can perform that task, or learn new information faster.

When we learn, our brains create new neural pathways.

Our brains literally **change and get stronger** as we learn. This is "neural plasticity."

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**GROWTH MINDSET & BRAIN RESEARCH**



An Interactive Activity

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**GROWTH MINDSET & BRAIN RESEARCH**



Grit: the power of passion and perseverance  
Angela Lee Duckworth

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**GROWTH MINDSET & BRAIN RESEARCH**

Reflect on a specific time when you learned a new physical skill or subject in school.

- How did you learn this?
- Was learning stressful? How did you respond to learning?

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**GROWTH MINDSET & BRAIN RESEARCH**

In small groups, summarize how everyone in your group learned their different skills or subjects.

Create a table with this information.

- How did you learn?
- How do you KNOW your skill well?
- What can you do if you STRUGGLE?

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**GROWTH MINDSET & BRAIN RESEARCH**

What do successful learners do?

**Effort + Good Strategies + Help from Others  
= INTELLIGENT PRACTICES**

**Productive Struggle + Intelligent Practices =  
SUCCESS**

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**GROWTH MINDSET & BRAIN RESEARCH**

**Mindsets**

Research has shown that everyone has a mindset, a core belief about how they learn.

People with a growth mindset are those who believe that smartness increases with hard work, whereas those with a fixed mindset believe that you can learn things but you can't change your basic level of intelligence.

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### GROWTH MINDSET & BRAIN RESEARCH

Mindsets are critically important because they lead to different learning behaviors, which in turn create different learning outcomes.

When people change their mindsets and start to believe that they can learn to high levels, they change their learning pathways and achieve at higher levels.

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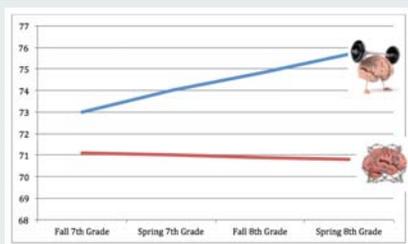
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### GROWTH MINDSET & BRAIN RESEARCH



The achievement of the students with a fixed mindset stayed constant, but the achievement of those with a growth mindset went onward and upward.

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### GROWTH MINDSET & BRAIN RESEARCH

*Students with a fixed mindset are more likely to give up easily, whereas students with a growth mindset are persistent and keep going even when work is hard.*

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## GROWTH MINDSET & BRAIN RESEARCH

The news about growth mindset is out – From business to athletics to education.

**The fact that a person’s potential is not known... YET...is a game changer.**

Just Google “Growth Mindset” and see what is out there!

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## GROWTH MINDSET & BRAIN RESEARCH

**Fixed Mindset vs. Growth Mindset**  
Based on the work of Dr. Carol Dweck

<p>I believe that my <b>Intelligence, Personality, Character</b> is inherent and static. Locked-down or fixed. My potential is determined at birth. It doesn't change.</p> <p><b>Fixed Mindset</b></p>  <p><b>Avoid failure</b> Desire to look smart Avoid challenges Stick to what they know Feedback and criticism is personal They don't change or improve</p>	<p>I believe that my <b>Intelligence, Personality, Character</b> can be continually developed. My true potential is unknown and unknowable.</p> <p><b>Growth Mindset</b></p>  <p><b>Desire continuous learning</b> Confront uncertainties, Embracing challenges Not afraid to fail Put lots of effort to learn Feedback to about current capabilities</p>
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<https://thecollegecoach.wordpress.com/2015/09/22/fixd-vs-growth-mindset/>

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## GROWTH MINDSET & BRAIN RESEARCH

**10 Growth Mindset Statements**

What can I say to myself?

<p><b>INSTEAD OF:</b></p> <p>I'm not good at this. I'm worse at this. I give up. This is too hard. I can't make this any better. I just can't do Math. I made a mistake. She's so smart I will never be that smart. It's good enough. That "A" didn't work.</p>	<p><b>TRY THINKING:</b></p> <p>1. What am I missing? 2. I'm on the right track. 3. I'll use some of the strategies we've learned. 4. This may take some time and effort. 5. I can always improve so I'll keep trying. 6. I'm going to train my brain in Math. 7. Mistakes help me to learn better. 8. I'm going to figure out how she does it. 9. Is it really my best work? 10. Good thing the alphabet has 26 main letters!</p>
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(original source unknown)      @jylvindschworth

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MINDSET CHARACTERISTICS		
Fixed Mindset	Characteristic	Growth Mindset
Set. You have what you have	SKILL/INTELLIGENCE	Can be grown/developed
How they look – Performance focused	MAIN CONCERN	Learning-Getting better Process Focus
Something you do when you are not good	EFFORT	A necessary part of learning
Avoid- easily give up	CHALLENGES	Persevere-work through it Embrace it
Take it personal / Get Defensive	FEEDBACK	Use it to learn. Crave it
Try to avoid making them. See them as a personal failure.	MISTAKES	Treat them as a learning opportunity
Feel jealous. Look for fault in the other	SUCCESS OF OTHERS	Genuinely happy for the other. Ask for their advice.

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### GROWTH MINDSET IN OUR JOBS

The previous information is from the website [www.trainugly.com](http://www.trainugly.com)

Check out the following link:  
<http://trainugly.com/the-growth-mindset-matrix/>

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## HOW CAN WE HELP STUDENTS TO APPLY A GROWTH MINDSET TO THEIR LIVES?

Part Two

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**GROWTH MINDSET WITH STUDENTS**



Key to having a Growth Mindset is to believe that with time, effort and good strategies, your ability to do something will grow and change.

**What are some ways you can change your students' fixed mindset into a growth mindset?**

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**GROWTH MINDSET WITH STUDENTS**




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**GROWTH MINDSET WITH STUDENTS**

Embedding Growth Mindset into a Classroom **Is most effective when paired with...**

- Brain Research on how we learn - it is not a belief that your brain grows, it is a FACT.
- Study Skills - what are the best ways to maximize your effort and time to learn the material effectively?
- Habits of Mind – related to students' academic dispositions and attitudes
- Hope – goals, willpower (motivation) and way power (strategies/plans)

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### GROWTH MINDSET WITH STUDENTS

**What are some ways you can change your students' fixed mindset into a growth mindset?**

Growth Mindset be infuse Growth Mindset into our classrooms and interactions with students...

through our language,  
classroom interactions,  
grading and more.

Brainstorm ideas that you would like to incorporate in your classroom or interactions with students.

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### GROWTH MINDSET WITH STUDENTS

**Share with a partner some of your ideas on how you would like to incorporate Growth Mindset into your classroom or interactions with students.**

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### GROWTH MINDSET WITH STUDENTS

**Language: Communicate a new learning goal:**

- New learning material is an opportunity to stretch!
  - Today, your brain will get stronger.
  - I am hoping you do not know this already; I wouldn't want to waste your time!
  - I really want us to stretch beyond our comfort zone on this!
  - I do not expect you to know this already. I am here to help you learn challenging material.
  - This is our first attempt - Mistakes are our friends! You'll have lots of chances to improve it.
- From "Mindset Works" [www.mindsetworks.com](http://www.mindsetworks.com)

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### GROWTH MINDSET WITH STUDENTS

#### Language: Communicate High Expectations

- This will be a challenging concept to learn, but all of us can reach the goal.
- I **know** that you (all) have the ability to do this, so I have set the bar high.
- I am going to push you all because I know if I do you will all do amazing work!
- This is challenging, but rewarding!
- As you learn this, mistakes are expected. Mistakes are learning opportunities!

From "Mindset Works" [www.mindsetworks.com](http://www.mindsetworks.com)

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### GROWTH MINDSET WITH STUDENTS

#### Examples of Growth Mindset Grading

- Lots of low-stakes "check-in" assessments, like quizzes. Feedback is given to support mastery of concepts, emphasizes growth in understanding and makes suggestions for learning.
- Students are regularly expected to correct their work from assessments, as the only mistake is the one we do not learn from.
  - Revision can be for full or partial credit or as part of a different assignment grade.
- Students are able to make up one assessment, as the emphasis is that they master it by the end and failure isn't permanent.

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If we only did things that were easy, we wouldn't actually be learning anything.

We'd just be practicing things we already knew.

~David Dockterman

**MISTAKES  
AND WHY  
WE  
SHOULD  
CELEBRATE  
THEM**

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### GROWTH MINDSET WITH STUDENTS

An important study showing the relationship between our beliefs and our brain activity found that when people with a growth mindset made a mistake, they experienced more brain activity than those with a fixed mindset.

Individuals with a growth mindset had a greater awareness of errors than individuals with a fixed mindset, so they were more likely to go back and correct their mistakes.

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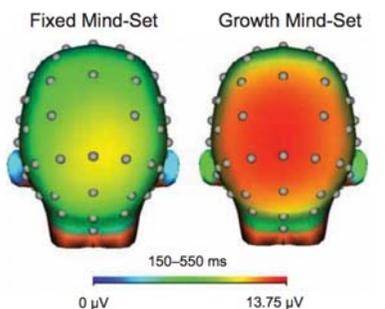
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### GROWTH MINDSET WITH STUDENTS



[WWW.YOUCUBED.ORG](http://WWW.YOUCUBED.ORG)  
AT STANFORD UNIVERSITY

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### GROWTH MINDSET WITH STUDENTS

If you believe in yourself, and do not think that your ability is fixed, your brain is more likely to spark and grow when mistakes are made.

The fact that brain activity is most intense when people have a growth mindset, shows just how important it is that people believe in themselves and they know that brains can grow and change with hard work.

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**MINI-CASE STUDIES TO ENGAGE STUDENTS BEFORE THEY STRUGGLE.**

Part 2.5

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**GROWTH MINDSET CASE STUDIES**

Mini-case studies can engage students around difficult topics and help students apply a growth mindset before they struggle.

The Math Department has some “beta case studies” that we will be piloting in the Spring with our students.

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**GROWTH MINDSET CASE STUDIES**

**Pre-Algebra Scenario:** Kameryn's day went from bad to worse. Her math teacher surprised the class with a quiz on material she was shaky on and she could not understand how to do 5 of the problems. She then left class frustrated, returned to her car only to find out she had a parking ticket because the parking pass had fallen onto the car floor. She called her friend to vent and her friend did not seem to listen or sympathize.

**How would you respond to this scenario?**

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### GROWTH MINDSET & BRAIN RESEARCH

DEVELOPING A **GROWTH MINDSET**

INSTEAD OF.....	TRY THINKING....
I'm not good at this	What am I missing?
I give up	I'll use a different strategy
It's good enough	Is this really my best work?
I can't make this any better	I can always improve
This is too hard	This may take some time
I made a mistake	Mistakes help me to learn
I just can't do this	I am going to train my brain
I'll never be that smart	I will learn how to do this
Plan A didn't work	There's always Plan B
My friend can do it	I will learn from them

www.thegrowth.com/learn/MSBMS1801120625

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### GROWTH MINDSET CASE STUDIES

Growth mindset vs fixed mindset

SUCCESS ← → FRUSTRATION

1. I can learn anything I want to.
2. When I'm frustrated, I persevere.
3. I like to challenge myself.
4. When I fail, I learn.
5. I like being told that I try hard.
6. If my classmates succeed, I'm inspired.
7. My effort and attitude determine everything.

GRIT

1. I'm either good at it, or I'm not.
2. When I'm frustrated, I give up.
3. I don't like to be challenged.
4. When I fail, I'm so sad.
5. I like being told that I'm smart.
6. If my classmates succeed, I feel threatened.
7. My abilities determine everything.

Learned helplessness

**Elementary Algebra – Reflecting on what a student should TRY THINKING in order to be successful.**

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### GROWTH MINDSET CASE STUDIES

**Scenario 1: Baggage from the Past!**

Stan just graduated from High School. Throughout his time there his teachers filled his head with the idea that he would never amount to anything. Stan is attending Las Positas College and his first quiz in Elementary Algebra is coming up. Stan feels like studying would just be a waste of time and is planning on winging it.

**How should the person TRY THINKING in order to be successful?**

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**GROWTH MINDSET CASE STUDIES**

**Scenario 2: Test Anxiety**

Shelly feels like she understands the algebra material when her teacher goes over it in class. She always does her homework and feels relatively comfortable while working on it. However, when she sits down to take the test it's as if she's never seen the material before.

**How should the person TRY THINKING in order to be successful?**

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**GROWTH MINDSET CASE STUDIES**

**Scenario 3: Overconfidence**

Issac totally understands the material while he is in class, especially since he's seen this material before. Due to his confidence he doesn't feel like he needs to spend time doing his homework or reviewing. After his first exam he justifies his poor grade by blaming on a fluke. He thinks he'll nail the next one, but doesn't plan on changing.

**How should the person TRY THINKING in order to be successful?**

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**GROWTH MINDSET CASE STUDIES**

Reflect on a specific lesson you would like students to engage in and practice applying a growth mindset around.

Think, pair, share.

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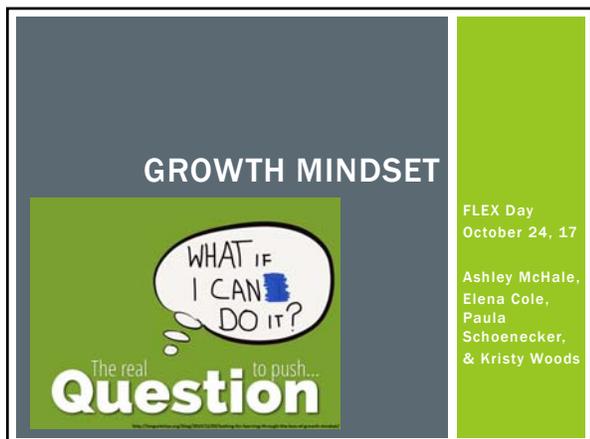
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**GROWTH MINDSET**

WHAT IF I CAN DO IT?

The real **Question** to push...

FLEX Day  
October 24, 17

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