

Nurturing a GROWTH Mindset

Based on the work of

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Effort – Attitude – Beliefs



The Main Ideas

- Effort leads to achievement
- Effective feedback helps students learn and achieve; ineffective feedback does not
- We can teach students about the value of effort

Students generally attribute their own success to four causes:

- * Ability
- * Effort
- * Other People
- * Luck

Belief in **EFFORT** is clearly the most useful!

(Marzano, et. al, 2001, p 50)

Student beliefs about effort

- Not all students realize the importance of believing in effort—or making the effort.

(Marzano, et. al, 2001, p 50)

MINDSET



CAROL S. DWECK, PH. D.



Mindsets

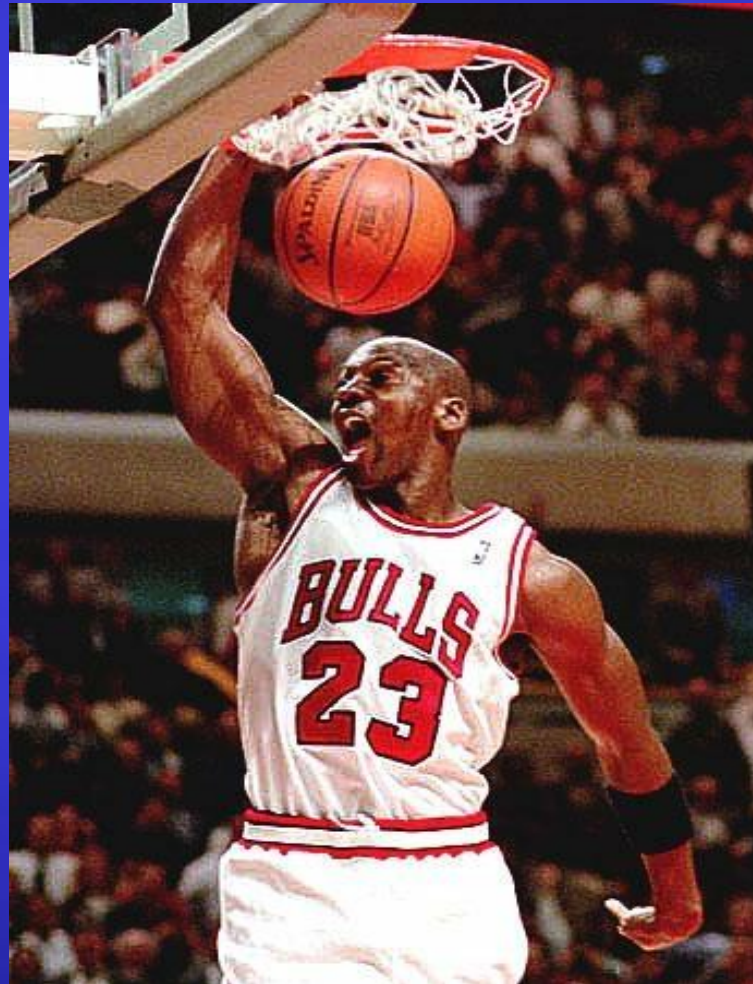
- **Mindset:**

The views held by a person about the nature of intelligence –and of *their own* intelligence!

Born SMART....?



Was Michael Jordan born
slam dunking?



Was Justin born a POPSTAR?



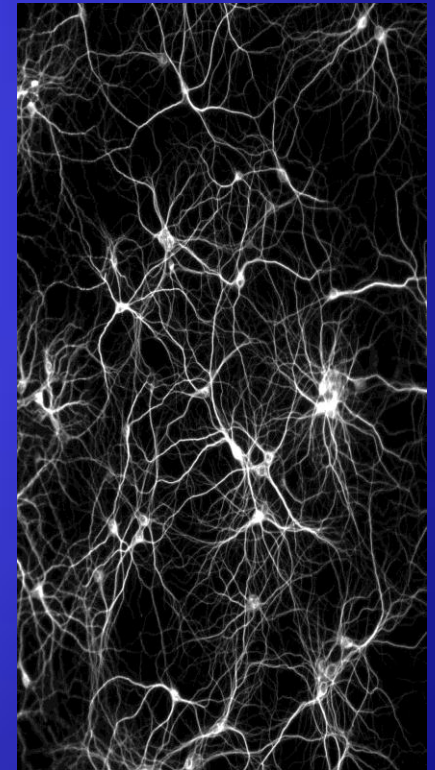
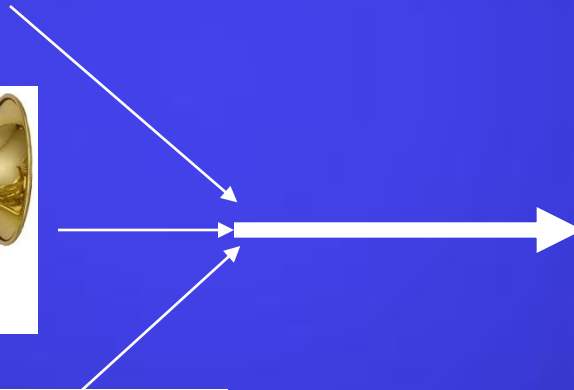
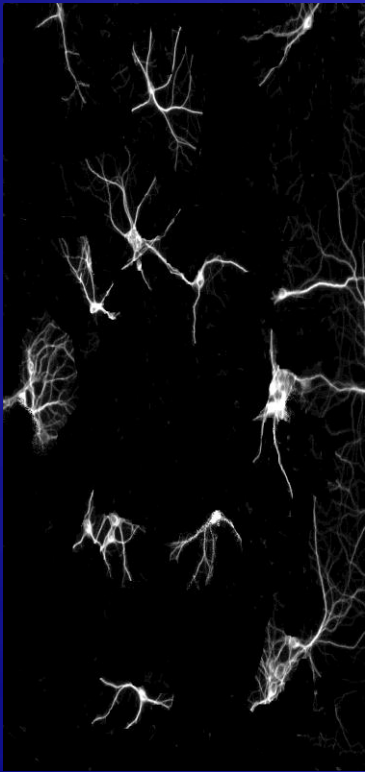
What do you think?

Are our abilities
determined
from birth?



Learning helps our neurons GROW.

The more we learn, the more connections they make.



Evidence from Neuroscience

- People who play music have been found to have auditory centres that are BIGGER than normal.
- The ‘sound’ area of their brain grew through practicing their music.



Growth mindset



Believes:
Intelligence is
MALLEABLE

Learning requires **HARD
WORK** and **EFFORT**

ALL individuals **CAN
LEARN** and improve

We **CANNOT MEASURE** a
person's **POTENTIAL**

Fixed mindset

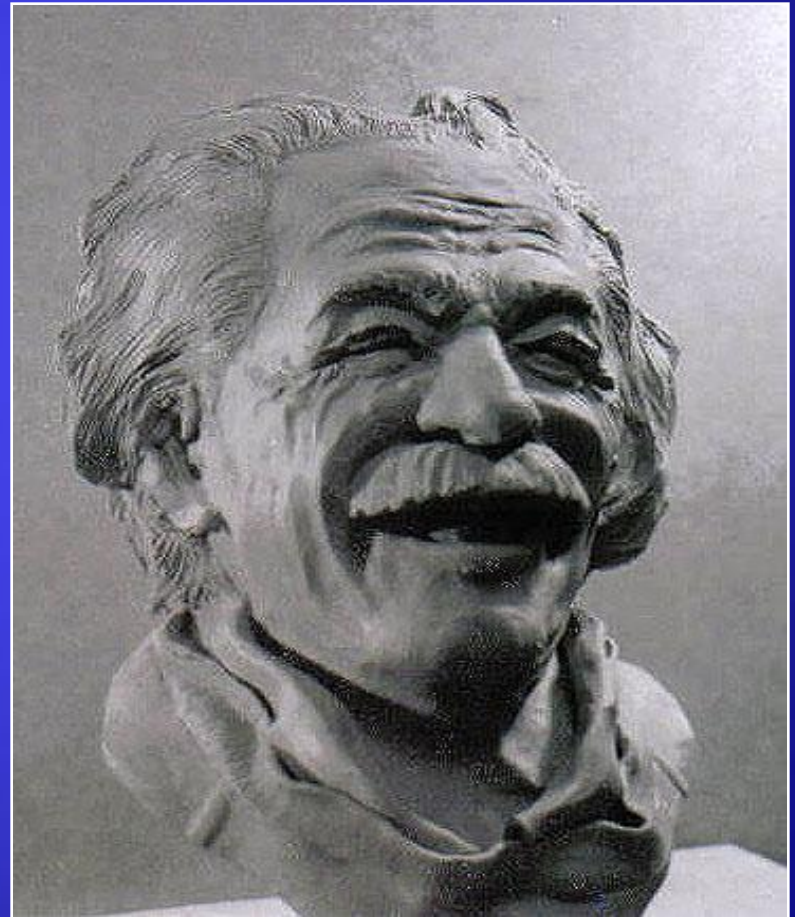
Believes:

Intelligence is **CARVED
IN STONE**

Scores on a test
MEASURE POTENTIAL

Intelligent people
shouldn't have to
WORK HARD

Failure reflects a **LACK
of INTELLIGENCE**



Growth: Mastery response

- View setback as a challenge
- Look for other ways to do things
- A love for learning and self-improvement
- A desire to be challenged
- A willingness to work for positive results
- A belief that you can control the outcomes in your life with effort and practice
- The ability to learn from mistakes and failures
- Emotional resilience



Fixed: Helpless response

- Lack of perseverance
- **Decreased enjoyment**
- Disengaged and avoid getting involved with studying
- **A false sense of superiority**
- Undermined by a deep sense of self-doubt
- **A fear of failure; refusal to take risks**
- A feeling that failure permanently defines you as a loser
- **A need to prove yourself again and again**



How the Research Classified Students' Mindsets as **“Fixed”** or **“Growth”**

- Students completed a questionnaire that assessed:
 - * Their personal theory of Intelligence
 - * Their goals
 - * Their beliefs about effort
 - * Their responses to failure

Mindsets Graphics

Fixed Mindset Intelligence is static

People who hold these beliefs think that "they are the way they are", but that doesn't mean that they have less of a desire for a positive self-image than anyone else. So of course they want to perform well and look smart.

Leads to a desire to look smart and therefore a tendency to...

CHALLENGES

...avoid challenges

By definition, a challenge is hard and success is not assured, so rather than risk failing and negatively impacting their self-image, they will often avoid challenges and stick to what they know they can do well.

OBSTACLES

...give up easily

Same with obstacles. The difference here, as I see it, is that challenges are things that you can decide to do while obstacles are external forces that get in your way.

EFFORT

...see effort as fruitless or worse

What's the point of working hard and making efforts if afterwards you are still on square one? If your worldview tells you that effort is an unpleasant thing that doesn't really pay dividends, then the smart thing to do is to avoid it as much as possible.

CRITICISM

...ignore useful negative feedback

Useful negative feedback is ignored in the best of cases, and taken as an insult the rest of the time. The Fixed Mindset logically leads you to believe that any criticism of your capabilities is criticism of you. This usually discourages the people around and after a while they stop giving any negative feedback, further isolating the person from external influences that could generate some change.

SUCCESS OF OTHERS

...feel threatened by the success of others

The success of others is seen as a benchmark against which the person looks bad. Usually when others succeed, people with a Fixed Mindset will try to convince themselves and the people around them that the success was due to either luck (after all, almost everything is due to luck in the Fixed Mindset world) or objectionable actions. In some cases, they will even try to tarnish the success of others by bringing up things that are completely unrelated ("Yes, but did you know about his...").

As a result, they may plateau early and achieve less than their full potential.

All this confirms a deterministic view of the world.

As a result, they don't reach their full potential and their beliefs feed on themselves: They don't change or improve much with time, if at all, and so to them this confirms that "they are as they are".

Growth Mindset Intelligence can be developed

Leads to a desire to learn and therefore a tendency to...

People who hold the Growth Mindset believe that intelligence can be developed, that the brain is like a muscle that can be trained. This leads to the desire to improve.

...embrace challenges

And how do you improve? First, you embrace challenges, because you know that you'll come out stronger on the other side.

...persist in the face of setbacks

Similarly, obstacles - external setbacks - do not discourage you. Your self-image is not tied to your success and how you will look to others; failure is an opportunity to learn, and so whatever happens you win.

...see effort as the path to mastery

Effort is seen not as something useless to be avoided but as necessary to grow and master useful skills.

...learn from criticism

Criticism and negative feedback are sources of information. That doesn't mean that all criticism is worth integrating or that nothing is never taken personally, but at least the Growth Mindset individual knows that he or she can change and improve, so the negative feedback is not perceived as being directly about him as a person, but rather about their current abilities.

...find lessons and inspiration in the success of others

The success of others is seen as a source of inspiration and information. To Growth Mindset individuals, success is not seen as a zero-sum game.

As a result, they reach ever higher levels of achievement.

All this gives them a greater sense of free will

And so, Growth Mindset individuals will improve and this will create a positive feedback loop that encourages them to keep learning and improving. Of course, most people do not have a 100% Fixed mindset or a 100% Growth mindset; most of us have some of both.

The good news is that it is possible to change your worldview from a fixed mindset to a growth mindset. And Carol Dweck's research indicates that both children and adults can be taught to change their mindset!

Pop Quiz



Effects of the Mindsets on Achievement

	Growth Mindset Desire to LEARN	Fixed Mindset Desire to LOOK SMART
Challenges	Embrace Challenges	Avoid Challenges
Obstacles	Persist in the face of setbacks	Get Defensive or Give up Easily
Effort	Effort = Path to mastery	Effort = Only for 'ungifted'
Criticism	Learn from Criticism	Ignore Negative Feedback
Success of Others	Find lessons and Inspiration	Feel Threatened

When do you feel smart?

(from *Mindset*, page 22)

- **People with the growth mindset said:**
 - * “When it’s really hard, and I try really hard, and I can do something I couldn’t do before.”
 - * “When I work on something a long time and I start to figure it out”
- **People with the fixed mindset said:**
 - * “It’s when I don’t make any mistakes.”
 - * “When I finish something fast and it’s perfect.”
 - * “When something is easy for me but other people can’t do it.

Almost equal



**15 %
undecided**



Most people display one or the other response. In some areas they may react with a mastery response and in others a helpless response.

Reflection Moment

**What squares
with my
thinking?**

What keeps going 'round and 'round in my head?

**Three points
to remember.**

GOOD NEWS



We *can* change from a fixed mindset to a growth mindset!

Studying the Effect of Praise

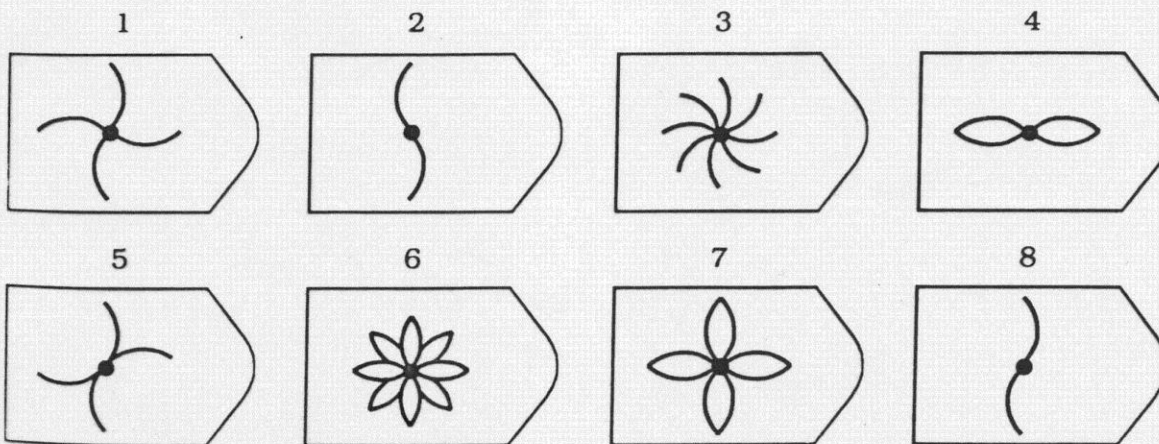
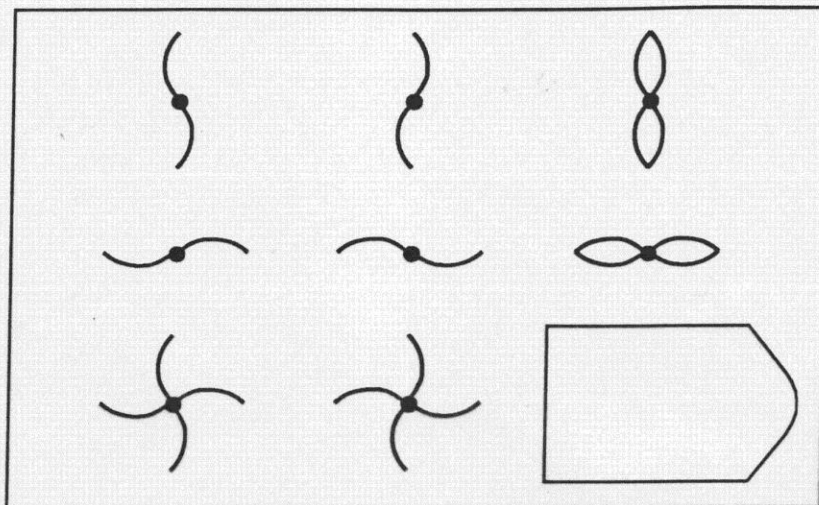
- The words we use can impart a mindset...
- Our words have great power over our children's (students') motivation and effort!

The Power of our Words

- The experimental procedure:
 1. Students given easy problems from the Ravens test
 2. Students praised with fixed, growth or control praise
 3. Students then asked to complete a second and third set of increasingly difficult problems...
 4. Students asked to explain their lowered achievement

Standard Progressive Matrices (Raven, 1976)

1.



2. Communicating Mindsets

Intelligence Praise (Fixed mindset) :

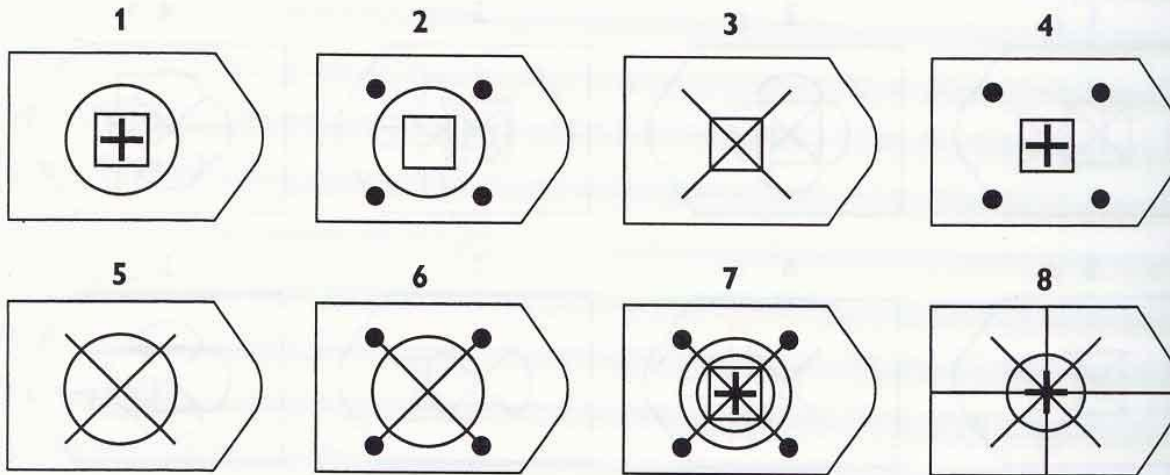
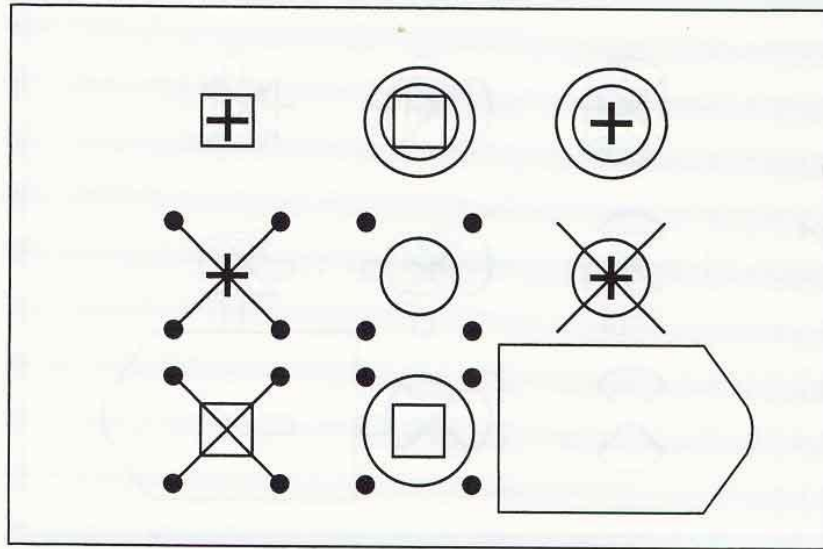
“Wow, that’s a really good score. You must be smart at this.”

Effort Praise (Growth mindset) :

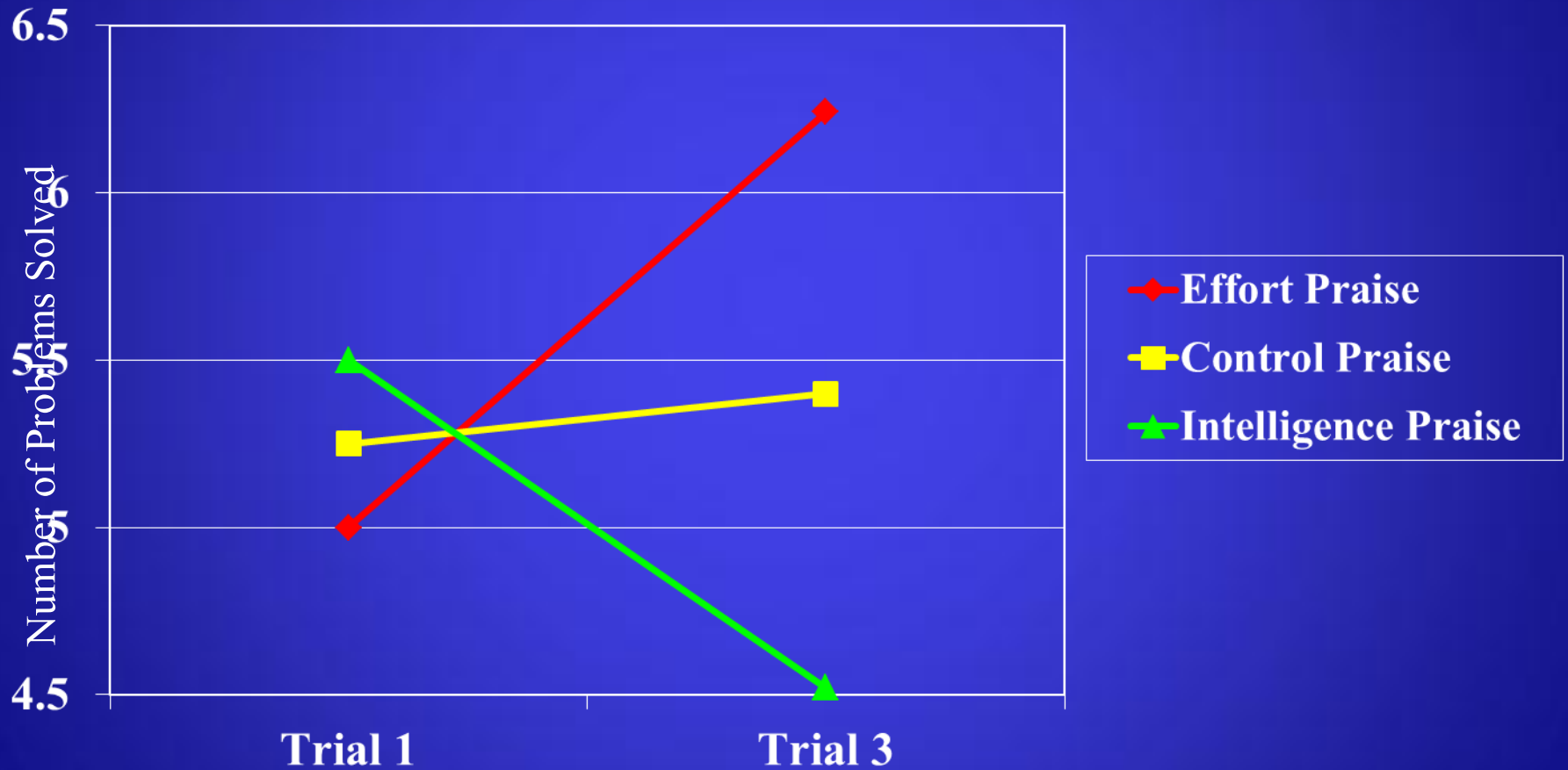
“Wow, that’s a really good score. You must have tried really hard.”

Control Group: “Wow, that’s a really good score.”

3.



Number of problems solved



The Secret to Raising Smart Kids...

- **Hint:** Don't tell your kids that they are.
- More than two decades of research shows that a focus on effort —not on intelligence or ability— is key to success in school and in life.

Vulnerability to Fixed Mindset

- **Girls and Women in STEM**



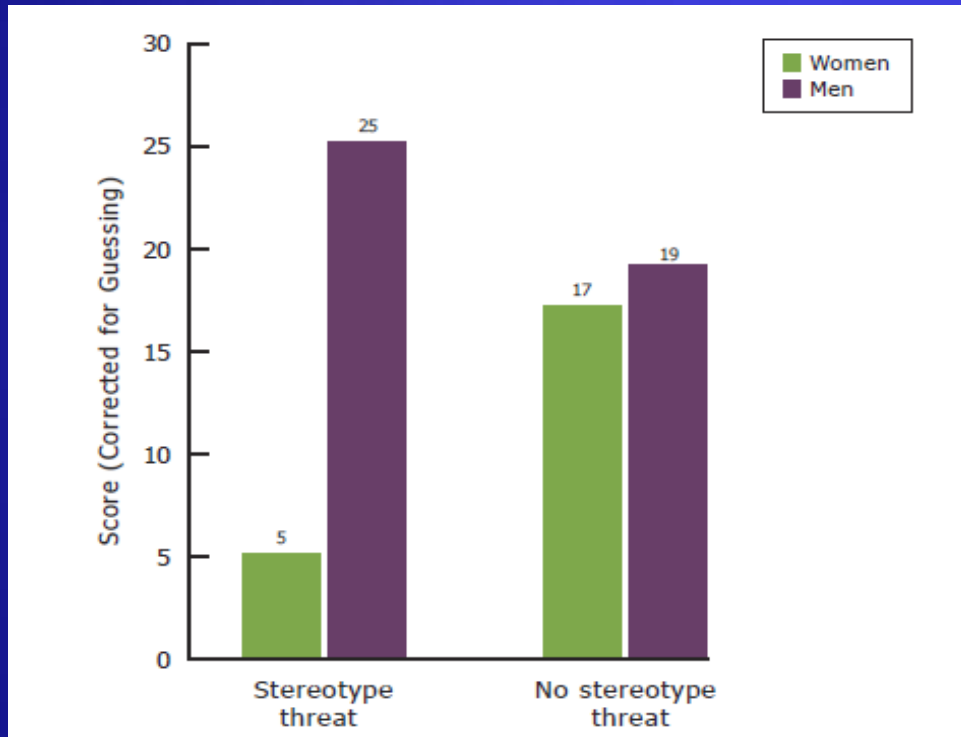
- **Teen-agers**



Girls' achievements and interests in math and science are shaped by the environment around them.

Negative stereotypes about girls' and women's abilities in math and science adversely affect their performance in these fields.

Performance on a Challenging Math Test,
by Stereotype Threat Condition and Gender



- Expose girls to successful female role models in math and science.
- Teach students about *stereotype threat*.

Source: Spencer, S. J., Steele, C. M., & Quinn, D. M., "Stereotype threat and women's math performance," *Journal of Experimental Social Psychology*, 35(1), p. 13.

In math and science, a growth mindset benefits all... but especially girls.

Fixed Mindset	Growth Mindset
Intelligence is static.	Intelligence can be developed.
Leads to a desire to <i>look smart</i> and therefore a tendency to	Leads to a desire to <i>learn</i> 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

- Teach students that intellectual skills can be acquired.
- Praise students for effort.
- Highlight the struggle, obstacles and challenges. They are all part of scientific work!
- Gifted and talented programs should send the message that they value growth and learning.

Teen-agers

- *Am I smart or dumb? Am I good-looking or ugly? Am I cool or nerdy? Am I a winner or a loser? And in the fixed mindset, a loser is forever.*
- It's no wonder that many adolescents mobilize their resources, not for learning, but to protect their egos. And one of the main ways they do this is by not trying.
- This low-effort syndrome is often seen as a way that adolescents assert their independence from adults, but it is also a way that students with the fixed mindset protect themselves.

Growth Mindset Praise

1. Form pairs, person “A” and person “B”
2. Think of a typical 3 or 4 classroom scenario in which you as a teacher are giving praise feedback to a student on a piece of work she/he has completed.
3. Or as a parent, think of a some typical scenarios in which you are giving praise feedback
4. Practice using “words that encourage a growth mindset” and avoiding “fixed mindset labels.”

Praise the Process,
Not the Intelligence, the Talent
or the Product.

As parents, teachers, and coaches,
our mission is developing
people's potential.

Focused Conversation

Guidelines for Effective Praise

1. Read the guidelines for effective praise, page 2 in the packet
2. Choose ONE OF THE CIRCLED guidelines to go deeper with a “Focused Conversation”
3. Go to station #2, #3, #6, #9 or #11
4. With the other people at your station, discuss and take notes on these questions on the Focused Conversation Worksheet in your white packet, page

Use Feedback to Show Students How to Fail

In moments of failure, students need our feedback the most

- The best thing we can do for students who fail is to provide them an honest assessment of why they failed and show them how to do better next time.
 - * Honor “wrong answers” as an opportunity to learn. Get students to risk being wrong. (Really good for perfectionists)
 - * Use “non-examples:” “That is a great ‘non-example;’ now lets see how we can turn it into an example!”

Never Work Harder than Your Students, p. 143

Never Work Harder than Your Students

Effort-based ability is the belief that all students can do rigorous academic work at high standards, even if they are far behind academically and need a significant amount of time to catch up. Educators who carry this belief into their practice are **not unrealistic** about the obstacles they and their students face. **They simply have not given up.**

—Jonathan Saphier (quoted on p. 77)

Changing from Fixed to Growth Mindset

Listen



Changing from Fixed to Growth Mindset

Step 1: Learn to hear your fixed mindset “voice.”

Step 2: Recognize that you have a choice.

Step 3. Talk back to it with a growth mindset voice.

Step 4. Take growth mindset actions.

Talking Back

“I’m not sure I can do it now, but I think I can learn to with time and effort.”

“If I don’t try, I automatically fail. Where’s the dignity in that?”

“Most successful people had failures along the way, what did I learn and now what can I do differently?”

Questions to Nurture a Growth Mindset

- What did you learn today?
- What did you try hard at today?
- What mistake did you make that taught you something?
- What was a challenge today?
- What did you practice today?

Living the Growth Mindset

- Talk about the skills you have today that you didn't yesterday, because of the effort and practice you put in.
- Describe with relish things you are struggling with and making progress on.
- Go around the table discussing your own and other's effort, strategies, setbacks and learning!

Practice what you preach.

- Model growth-mindset thinking with your child.
- Explain how you deal with challenges and how you continue to learn.
- Don't label yourself in ways that demonstrate a fixed mindset:
 - *“I'm a terrible cook.”
 - *“I always had trouble in math too.”

Take reasonable risks, and encourage your child to do so.

- The growth mindset is about being a lifelong learner. Accepting risk and a certain amount of failure is part of that process.
- Is there something you always wanted to try but were afraid you'd fail? **Make a plan to do it.** Allow your child to do the same.

(helps cure **PERFECTIONISM**)

What about Perfectionism?

- Workaholics/perfectionists understand how to put out maximum effort, but they fear their traits are fixed
- They need constant validation by putting their talents on display
- They need to prove to themselves and the world that they are “good enough”
- OR they can become underachievers: “I can’t risk *not* being the best, so I won’t try.”

Growth mindset allows us to value what we are doing regardless of the outcome.

3-2-1

- 3 things you have learned so far
- 2 things that you can use in your home or classroom
- 1 thing you are still wondering about

Research proves that
students can change their beliefs —
putting an emphasis on effort

Marzano

- * Track the connection between effort and achievement
- * Reflection through rubrics or learning logs

Effort:

What role does it play?



Point out the perseverance/ effort of favorite athletes and stars.

- Discuss what habits (focus, goal-setting, daily practice, commitment) enabled the athlete to be so successful.
- Avoid referring to a star athlete's “natural” talent or “effortless” ability.
- Talk about famous people who failed in their early efforts.



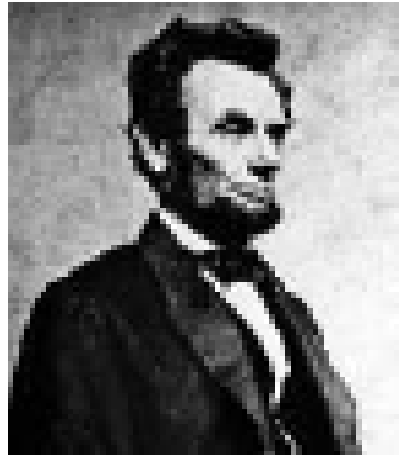
Examples of Growth Mindset: Effort and Perseverance!



Walt Disney was fired by a newspaper editor because “he had no good ideas.” He went on to create Mickey Mouse, Donald Duck, the Disney Studios, Disneyland; his greatest dream, EPCOT Center opened in 1982.

Thomas Edison’s teachers called him “too stupid to learn.” He made 3,000 mistakes on his way to inventing the light bulb. Eventually he held 1,093 patents.





Abraham Lincoln started out as a captain at the beginning of the Blackhawk War; by the end of the war, he had been demoted to private.

Failed in business in 1831.

Defeated for Legislature in 1832.

Second failure in business in 1833.

Suffered nervous breakdown in 1836.

Defeated for Speaker in 1838.

Defeated for Elector in 1840.

Defeated for Congress in 1848.

Defeated for Vice President in 1856.

Defeated for Senate in 1858.

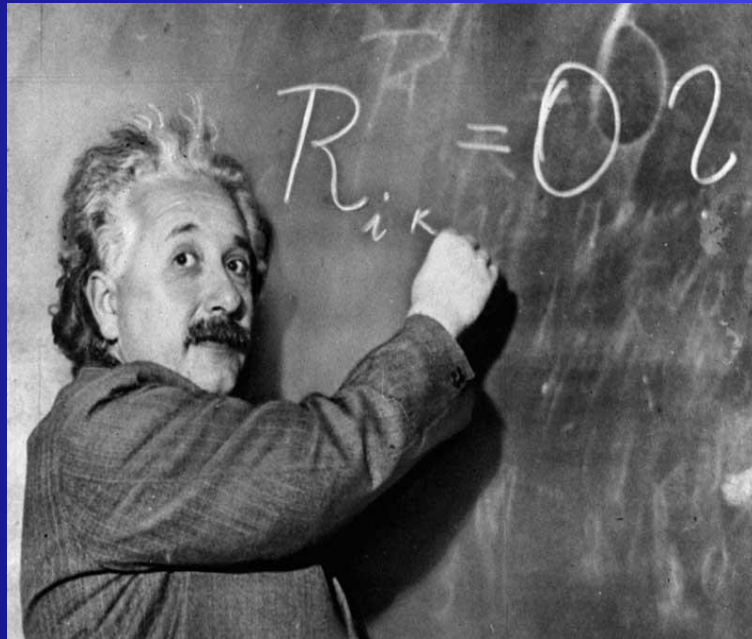
Elected President in 1860.

The “Natural Ability” Myth...



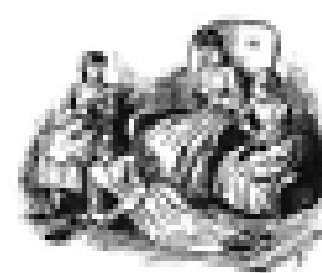
- **Michael Jordan's** coach said that he wasn't more talented than others...
- He was **cut** from his freshman basketball team.

The “Natural Ability” Myth...



- **Albert Einstein's** teacher said that he was ‘academically subnormal’
- He **failed** the entrance exam to get into an elite college.
- He spent **two years** looking for a teaching position, and nobody would hire him.

Louisa May Alcott was told by an editor that she would never write anything popular. More than a century later, her novels are still being read, and the Children's Literature Association (an international group of librarians, teachers, authors, and publishers) considers *Little Women* on the the best American children's books of the past 200 years.



CHAPTER I PLACING MEG

"Christmas will be fifteen years ago to-morrow," grumbled Jo, lying on the rug.

"It's no wonder to be poor," replied Meg, looking down at her old dress.

"I don't think so; for he never gets us any play-thing things, and never gets anything at all," cried little Amy, with an injured sigh.

"There's got to be something out with that," said Meg, severely, turning her eyes.

The four young faces on which the sunlight shone brightened at the thoughtless words, but Meg looked again at her old dress.

"We haven't got money, you know, and here the young ones," she glared at her "quakers," "has not a penny either in, thinking of what for they'll want the lighting up."

"Why wonder for a minute, then, they will be an altered case,"

"How could the money matter, provided we having the presents the Christmas-wishes is going with a good dinner for ourselves, and the things we might use to spend money for presents, what-very well we willing to do the way. The only trouble, how we can make our money, and what's that is quite, don't you think I don't?" said Meg, looking for food, with a slight regretfully at all the years along the street.

"Don't don't think the fact we should spend ourselves was good. We've made our money, and the money wouldn't be much helped by not giving them. I agree, we've never anything from mother or father, but I'll tell you the Christmas-wishes for school, I've wanted it so long," said Jo, who was a bookworm.

**Babe Ruth hit
714 home
runs—but he
also struck out
1,330 times.**



**R.H. Macy
failed
seven
times
before
making it
big with
his New
York store.**



Effective Effort!!

Let's Try!

Pick something you do regularly but not necessarily very effectively.

Effective Effort: What does it Require?

- 1. Time** – How much will it take?
- 2. Focus** – No Multi-tasking!
- 3. Strategies** – Find what works for you.
- 4. Resourcefulness** – Know where to find help.
- 5. Use of Feedback** - Suggestions to improve.
- 6. Commitment** - Never give up!

Source: The Skillful Teacher, based on a model by Jeff Howard

Effective Effort Checklist

Select a task or a subject area where you feel like you try hard, but maybe you aren't as effective as you think you should be. Read each question below and jot down notes for how you could improve your effective effort.

Element	Questions	Answers and Plan
Time	Do you spend the hours needed to finish the job well?	
Focus	Do you concentrate on one thing at a time and avoid multi-tasking by turning off your phone, music, TV, IM, and other distractions?	
Strategies	If one strategy isn't working, do you try different ones until you find something that works?	
Resourcefulness	Do you know where to go or who to ask for help when you are really stuck?	
Use of Feedback	Do you look carefully at the responses to your work so that you know exactly what to fix to improve?	
Commitment	Are you determined to finish and do your very best work no matter what?	

Research proves that
students can change their beliefs —
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Marzano

- * Track the connection between effort and achievement
- * Reflection through rubrics or learning logs

Effective Rubrics

1. Review Effort Rubrics, pages 6–14 in white packet.
2. Ask yourself, discuss with others:
 - * Do you already use similar rubrics, perhaps for work evaluation criteria?
 - * Do you have students track their grades on a similar assignment chart?
 - * Do you think you might use these rubrics, as they are or modified to meet your needs?



www.brainology.us

- “Helps upper elementary, middle school and high school students gain confidence and motivation to learn by teaching them about the brain, how to strengthen it, and how to apply brain-friendly study skills.”
- “Helps them cultivate a **growth mindset**, which leads to growth and learning-oriented behavior.”

From Brainology: The Learning Brain



Animation of brain cells growing connections when you learn

You Can Grow Your Intelligence

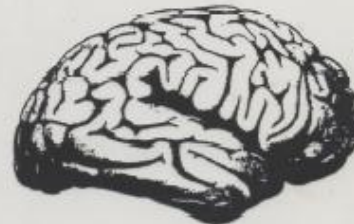
*New Research Shows the Brain
Can Be Developed Like a Muscle*

Many people think of the brain as a mystery. They don't know much about intelligence and how it works. When they do think about what intelligence is, many people believe that a person is born either smart, average, or dumb—and stays that way for life.

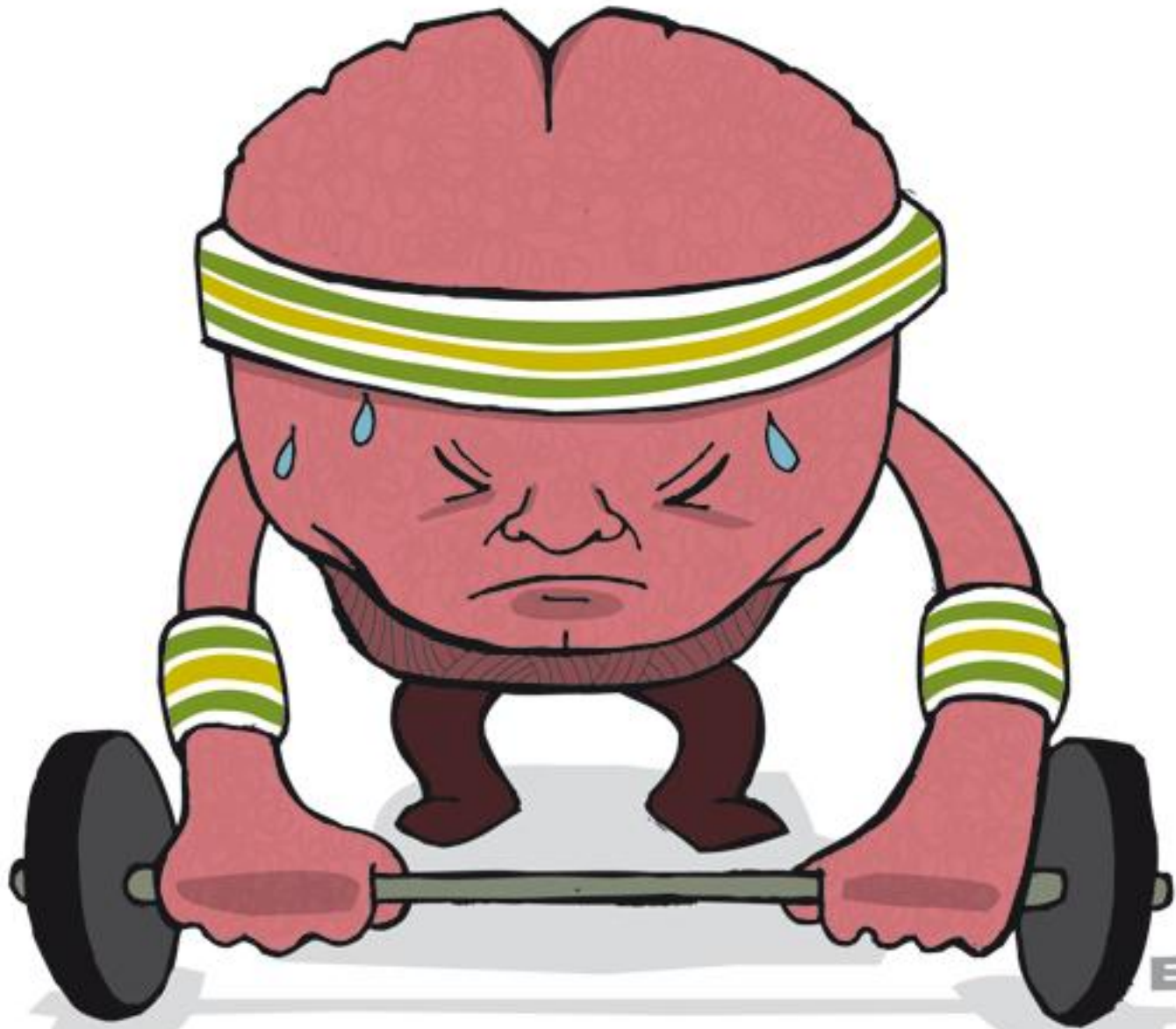
But new research shows that the brain is more like a muscle—it changes and gets stronger when you use it. And scientists have been able to show just how the brain grows and gets stronger when you learn.

Everyone knows that when you lift weights, your muscles get bigger and you get stronger. A person who can't lift 20 pounds when they start exercising can get strong enough to lift 100 pounds after working out for a long time. That's because the muscles become larger and stronger with exercise. And when you stop exercising, the muscles shrink and you get weaker. That's why people say "Use it or lose it!"

But most people don't know that when they practice and learn new things, parts of their brain change and get larger a lot like muscles do when they exercise.



Inside the cortex of the brain are billions of tiny nerve cells, called neurons. The nerve cells have branches connecting them to other cells in a complicated network. Communication between these brain cells is what allows us to think and solve problems.



Use it or Lose it!!

- Our brains are always changing and creating new paths. Neuroplasticity happens every day, and can be extreme.
- The brain can be reconstructed all the time. We need to exercise the skill, or we lose it.

The Brain That Changes Itself By Norman Doidge

ZPD: Zone of Proximal Development (Student's *challenge* learning level)

Too difficult: Tasks I cannot do even with help



I don't know it yet, but I can learn this with support.

Too easy: Tasks I can do all by myself, from which
I won't learn much

Mindset Works and Brainology

- Curriculum to bring information to students about the Neuroplasticity of their brains and how effort leads to greater achievement.
- Take 5 minutes to explore the yellow packet and discuss with your partner how you can use this information in your classroom in your school or at home?

Use failures as an opportunity for reflection and growth.

1. Don't use labels, and don't let your child use them.
2. Don't shelter your child from the realities of failure by placing blame on others.
3. Ask: "What can you learn from this experience? What could you try differently the next time?"



Fostering the Growth Mindset

Nine-year old Elizabeth was on her way to her first gymnastics meet. Lanky, flexible, and energetic, she was just right for gymnastics, and she loved it. She was a little nervous about competing, but felt confident she'd do well. She already knew where she'd hang her ribbons.

Elizabeth went first in the floor exercises. Although she did a nice job, the scoring changed after the first few girls, and she lost. She did okay in the other events too, but not well enough to win. By the end of the evening, she had received no ribbons and was devastated.



Fostering the Growth Mindset

What would you do if you were Elizabeth's parents?

1. Tell Elizabeth you thought she was the best.
2. Tell her she was robbed of a win that was rightfully hers.
3. Reassure her that gymnastics is not that important in the grand scheme of things.
4. Tell her she is good and will surely win next time.
5. Tell her she didn't deserve to win.

Here's what he actually said:

- “Elizabeth, I know how you feel. It's so disappointing to have your hopes up and to perform your best but not to win. **But you know, you haven't really earned it yet.** There were many girls there who've been in gymnastics longer than you and who've worked a lot harder than you. If this is something you really want, then it's something you'll really have to work for.”

Emphasize the **joy** of learning for learning's sake.

- When discussing school, talk about learning as a means for personal reward, growth, intellectual challenge, and opportunity – not as a means to earn a grade or get into a great college or become the next Olympian.

Set appropriately high expectations and **provide support.**

- Lowering standards does not raise self-esteem.
- Provide students with needed supports (extra help, additional resources).
- **Don't assume that "you could do it easily if you just tried harder."**

Provide honest, constructive criticism that emphasizes growth

- Don't harp on your child's shortcomings or past mistakes.
- **Work with your child to identify strategies for improvement.**
- Involve your child in the problem-solving process, rather than handing out punishments.

Respond to these student comments with a partner

“My parents will kill me if I don’t get all A’s

“I am going to take all easy classes, so I can get straight A’s”

“A hard B is better than an easy A”

Having innate talent is not a goal; expanding skills and knowledge is.

Your
intelligence
is in your
hands!



Quiz Time:

- What are **6** Strategies you can use to nurture students' Growth Mindsets?

REVIEW: Strategies for Nurturing a Growth Mindset

1. Praise Effort not innate ability
2. Teach students to recognize fixed mindset voice and how to talk back to it
3. Model a growth mindset by sharing your effort, risks, struggles and accomplishments
4. Dispel the “natural ability” myth of famous people
5. Support effort with specific strategies and rubrics
6. Teach students about the Neuroplasticity of their brains
7. Emphasis the JOY of learning over grades

Thumbs up for Rock and Roll

