

Resources for Promoting Learning Mindsets

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MONROE COMMUNITY COLLEGE, ROCHESTER, NY



Additional Web Resources

PERTS – perts.net

- Direct-to-student programs for high schools (9th grade) and colleges
- Research information

Mindset Kit – mindsetkit.org

- Free evidence-based videos and resources for promoting learning mindsets
- Materials for teachers, parents, and mentors
- Includes interactive practice library where educators can share their practices

Mindset Scholars Network – mindsetscholarsnetwork.org

- Research information on motivation and learning mindsets

Sevenzo – sevenzo.org

- Teacher caring (belonging) practices

Character Lab Play Books – characterlab.org

- See their Playbooks for resources on *relevance* (Building Connections Playbook) and *effective goal setting and planning* (WOOP Playbook)

Feedback helps me improve!

Please take 3 minutes to fill out this short survey if you attended this presentation in person or watched it online

tinyurl.com/Monroe-GMS

Cost to Society

Lifetime aggregated societal burden for “opportunity youth” = \$4.75 trillion (Belfield, Levin, Rosen, 2012)

- Opportunity youth = cost to society for young people between 16-24 not in school or working

“These youth have not progressed through college or secured a stable attachment to the labor market.”

- (Belfield, Levin, Rosen, 2012)

Agenda

- Framing the Context
- Growth Mindset
 - Evidence for Matters
 - Changing Students Beliefs
 - Learning Environment that Foster Growth Mindset
- Brief Overview Other Learning Mindsets
- Free Evidence-based Resources



Life-long learning is ever more crucial for survival



“over the next 25 years, 47% of jobs will likely be eliminated by technology and globalization”

- Art Bilger, Founder & CEO of Working Nation

You Don't See Unmotivated Babies





Mindsets Develop Over Time

Mindsets = **Beliefs and perceptions** of the learning environment

They act as lens through which we **interpret** the meaning of events and experiences

...particularly experiences of adversity



What does critical feedback mean?

Look at all these
comments....

I guess I'm not
very good at this.

Look at all these
comments...

these are really
helpful!



Interpretations Influence Behavior

What's the point of revising this if I'm no good at writing.

These will help me make my next version even better.



Mindsets and Achievement

Beliefs and perceptions play an important role, but not the only factors:

Basic needs

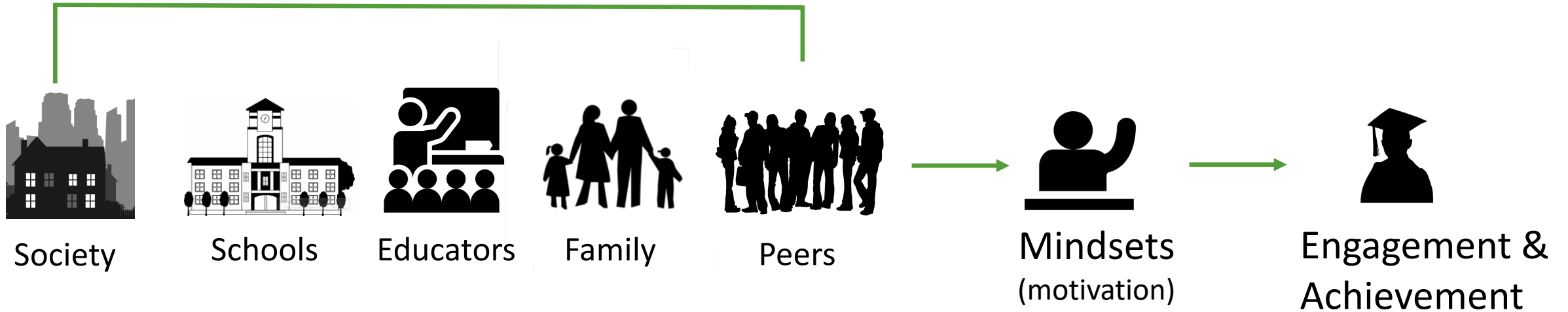
- Sleep
- Safety
- Food

Self-regulated learning skills

- Executive Function
- Social and Emotional

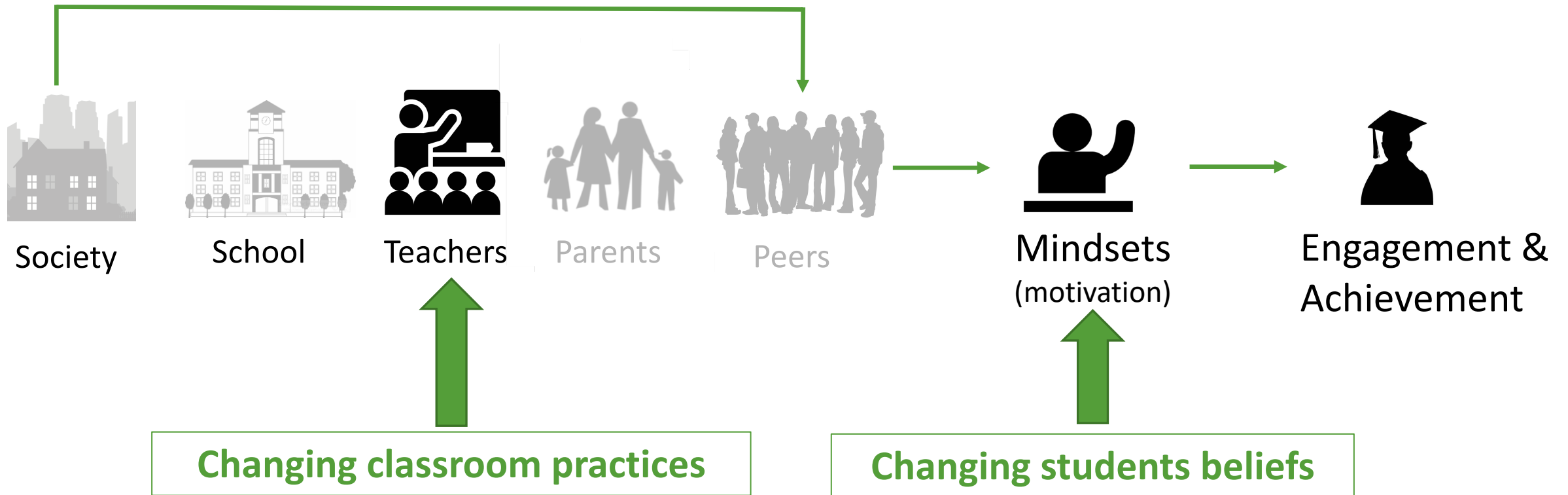
What Shapes Student Mindsets?

Messages From...



Today's Focus

Messages From...



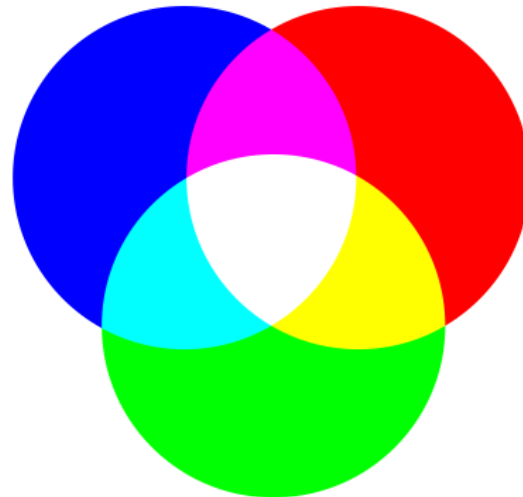
Learning Mindsets

Growth Mindset – I can develop my intellectual abilities

Belonging – I am respected and valued in this learning community

Relevance/Purpose – My academic studies are valuable to me and my life

Belonging



Relevance / Purpose

Growth Mindset

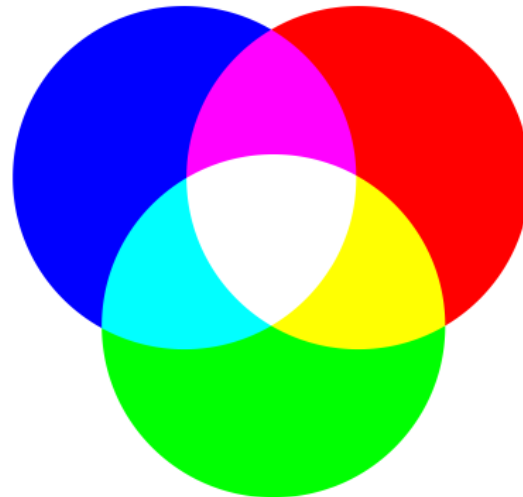
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Relevance / Purpose

Growth Mindset

Mindsets About Intelligence



Growth Mindset

You can grow your intelligence through effort, practice, and good strategies



Fixed Mindset

Intelligence is a fixed trait
You can't change it

Reactions to Learning Experiences

e.

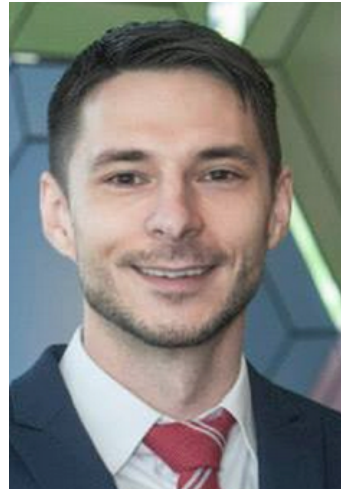
	Growth	Fixed
Goals	To Learn School is a place to grow	To Look Smart School is a place to be judged
Mistakes & failure	Resilient Normal part of learning, surmountable	Helpless Proof of not being smart
Being challenged (effort & risk taking)	Approach Opportunity to learn and improve	Avoid See effort as proof of low ability
Critical feedback	Receptive Helpful for improving	Defensive Reminder of what they lack so tune out

Mindsets Predict Achievement

Evidence From a Nationwide Sample In Chile



Susana
Claro



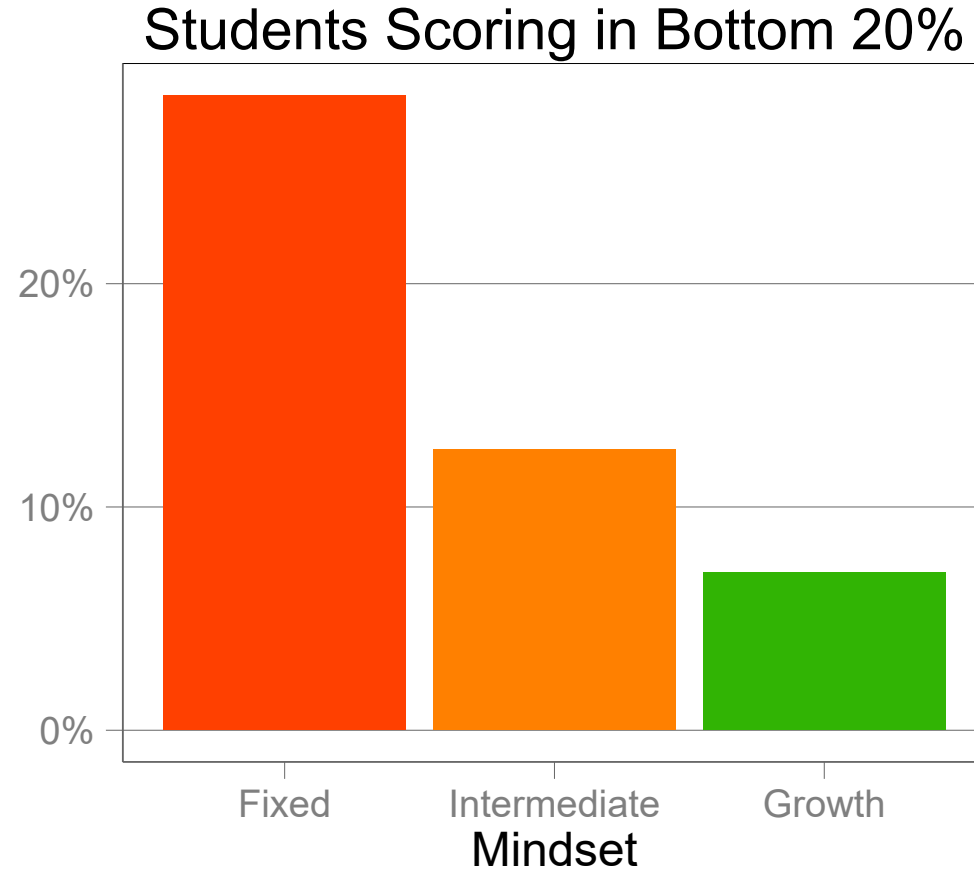
Dave
Paunesku

Chilean National Achievement Test

10th grade test incorporated
Growth Mindset Assessment

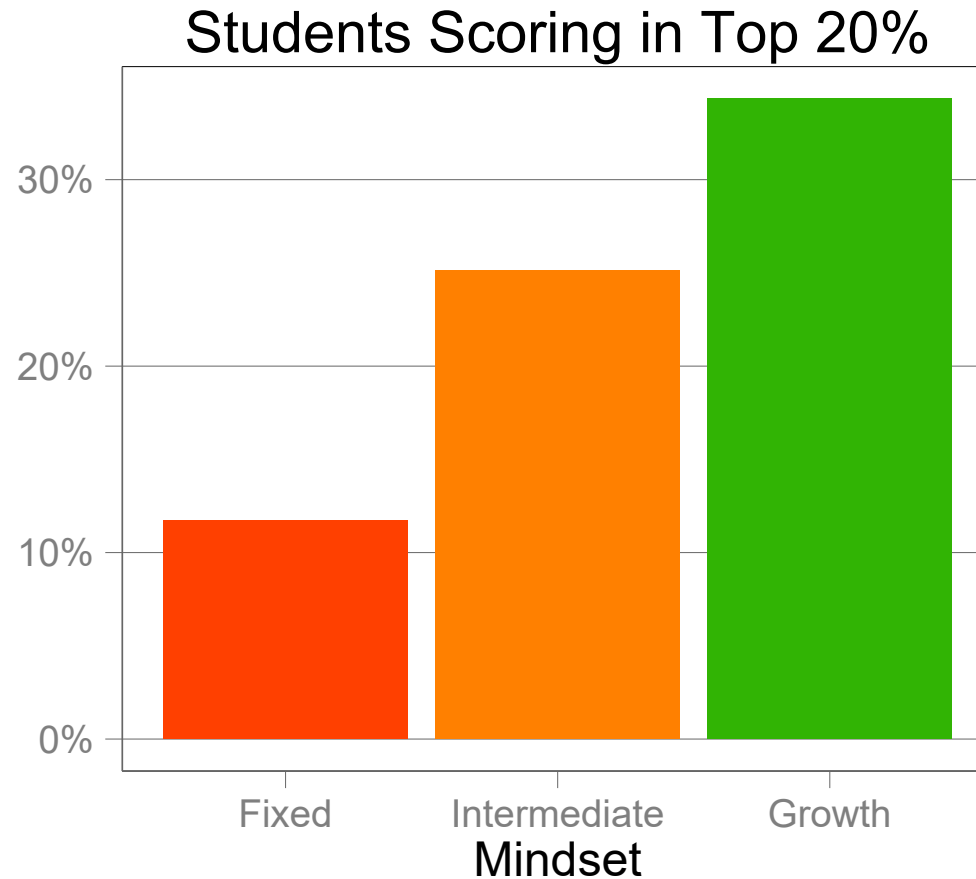
- **N = 168,533**

Fixed Mindset and Bottom Scores



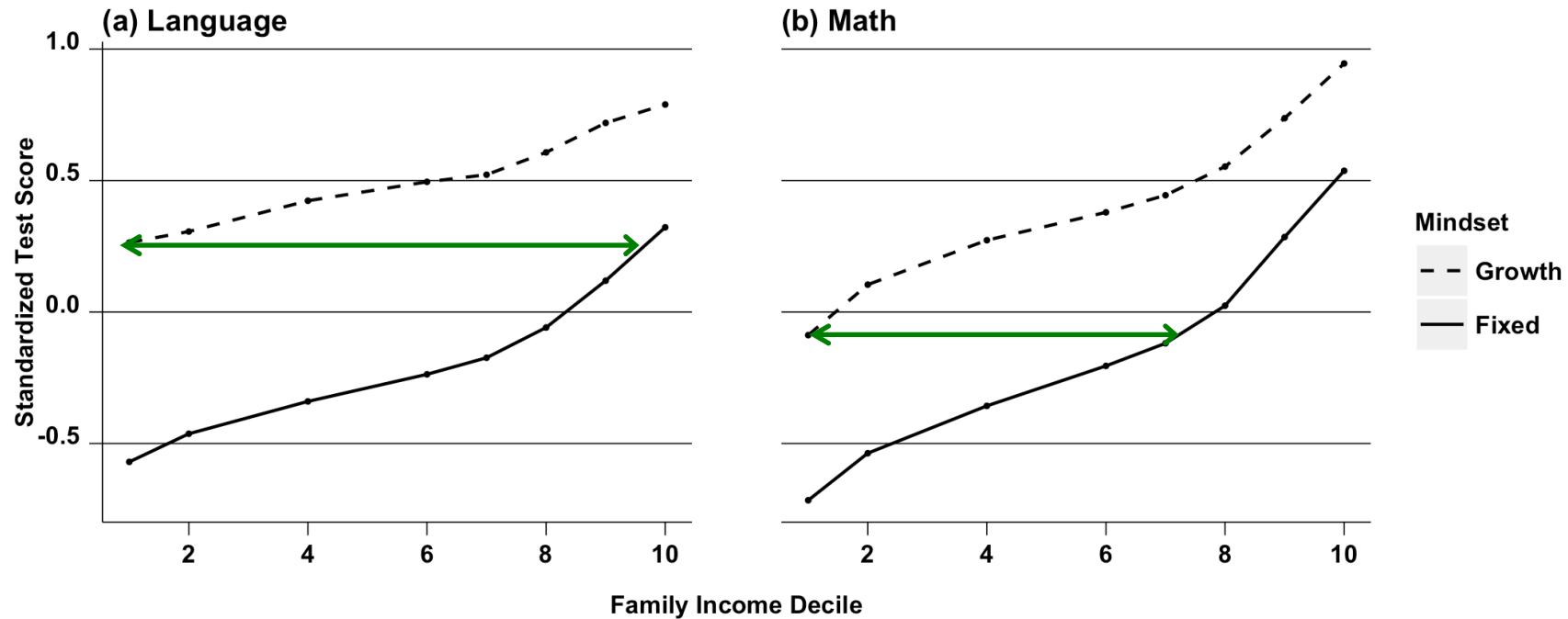
Fixed Mindset students were **4x more likely** to score in the bottom fifth!

Growth Mindset and Top Scores



Growth Mindset students were **3x more likely** to score in the top fifth!

Mindsets and Family Income



Changing Students Beliefs

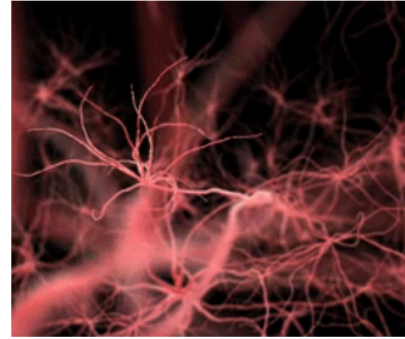


Intelligence Is About Connections

The outside layer of the brain, which is called the cortex, is made up of billions of nerve cells called neurons. These cells have branches connecting them to other cells in a complex network. Communication between these cells is what allows us to think and solve problems.

When you learn new things, the connections between these nerve cells actually multiply and get stronger. The more you challenge your mind to learn, the more your brain cells connect to each other and the stronger those connections get.

Therefore, even things that once seemed hard or impossible, like doing calculus or becoming a good writer, become easier. The result is a stronger, smarter brain.





Student #512

I used to get so down seeing other people who were better at school than I was. I thought they were just born smarter than me. But in talking to them, I've realized just how much work they actually put in, and really I can do the same thing. It's not about being smarter than other students, it's about being smarter than I was yesterday. Maybe I'm not good at some subjects yet, but I know what I need to do to get better. And when something's really hard, I always remind myself that I'm just not good at it yet.

Help Us Explain This to Other Students!

Some students don't realize the brain can grow smarter with practice and the use of better strategies. When something is hard, they feel dumb and stop trying. Students who understand that they can grow their intelligence act differently when something is hard—they try harder and look for new strategies. Over time, students who understand that they can grow their intelligence spend more time studying the right way, and they do better in school and become smarter.

Sadly, there are still a lot of students who don't understand how they can grow their intelligence or that it's even possible. We'd like your help to explain to these students that you can grow your intelligence with practice and better strategies. We will share your responses with future students who complete this survey. We know this understanding will help these students do better.



Leveraging Persuasion Research

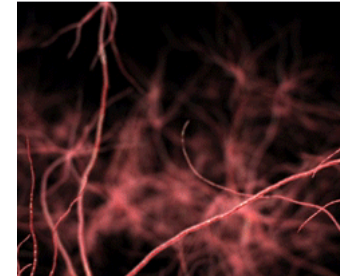
Clear Analogy

- The brain is like a muscle!



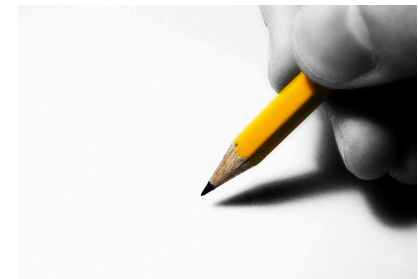
Source Credibility

- Neuroscience evidence for mechanism
- Peer endorsement of positive norm



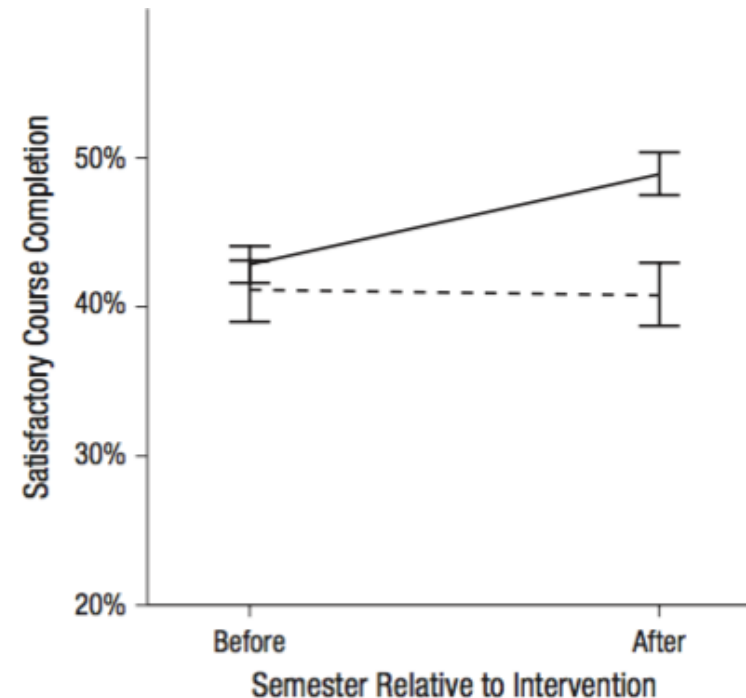
Self-authoring

- Honorific – “we need your help explaining these ideas”
- Writing activity to internalize the message
- Mental rehearsal of positive self-talk



High School Results

- 6.4% increase in A, B, C grades overall and 20% increase for low performing students (<2.0 prior GPA) (Paunesku et al., 2015)
- More likely to choose challenging math problems (Yeager et al., 2016)



Growth Mindset for College Students

Study Design:

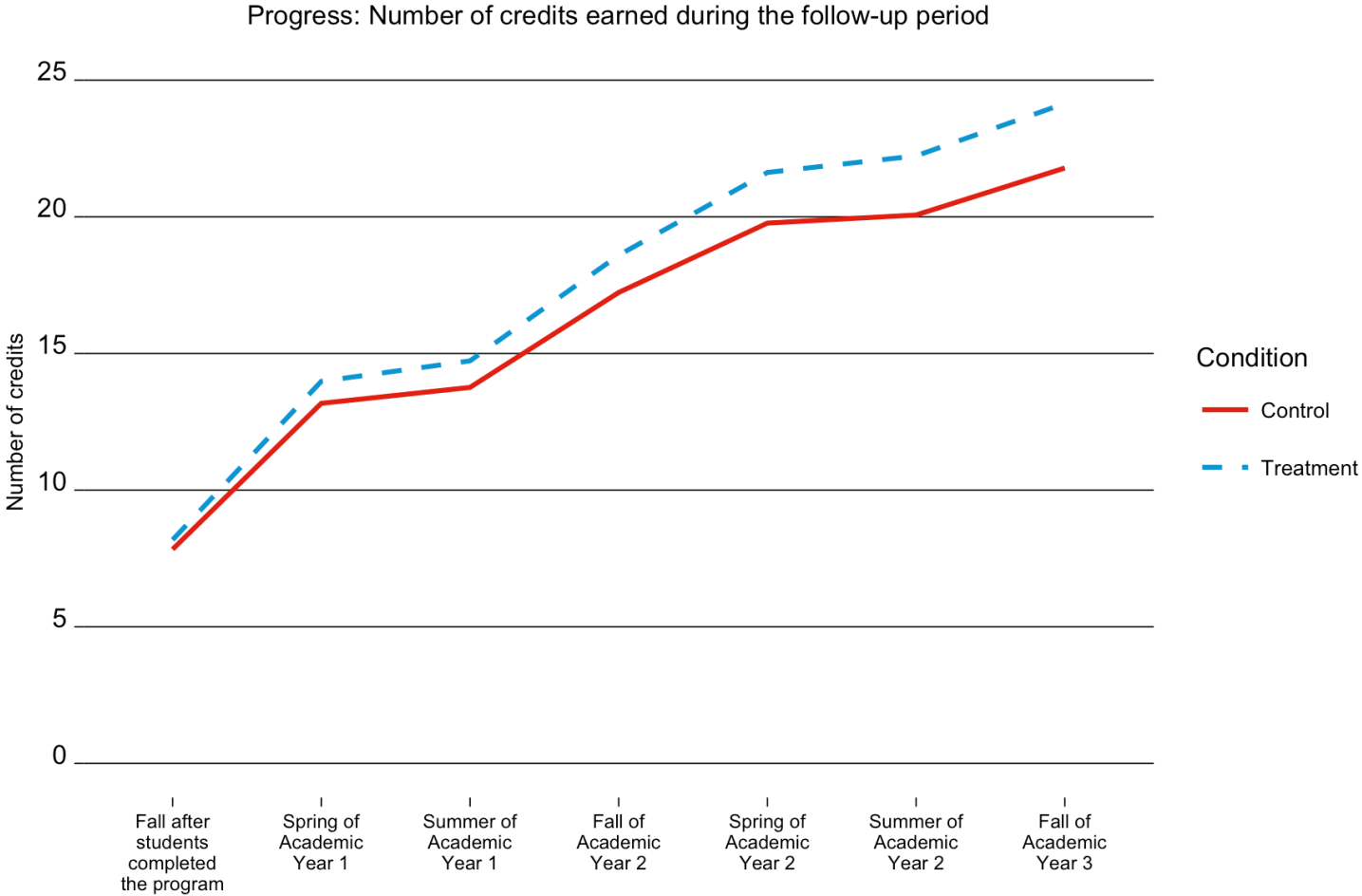
- 966 students, [84% White, 7% Black, 2% Latino, 5% other]
- 5 colleges in Indiana
- Randomized controlled trial
- Two 45-minute online sessions, 2-4 weeks apart
- Track students academic outcomes for 2 years

Measuring Community College Success

Student is successful if they...

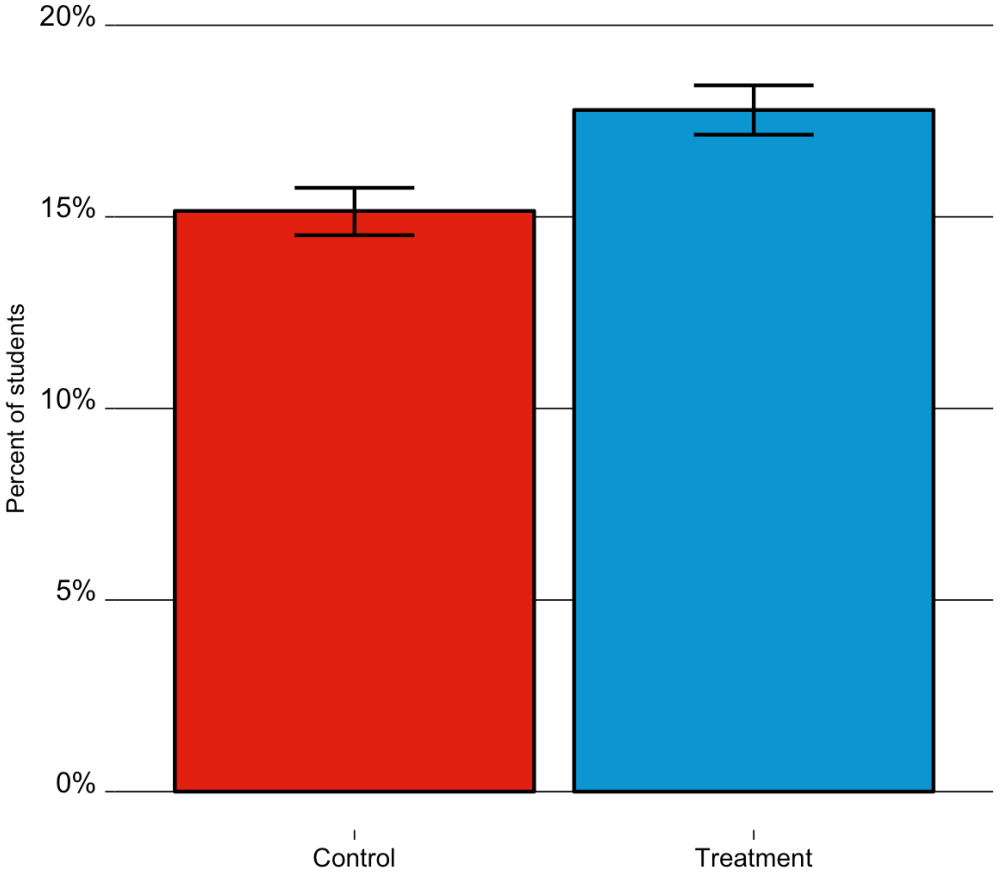
- Remain enrolled (credit accumulation)
- Earned an associate degree
- OR transferred to 4-year college

Results – Credit Accumulation

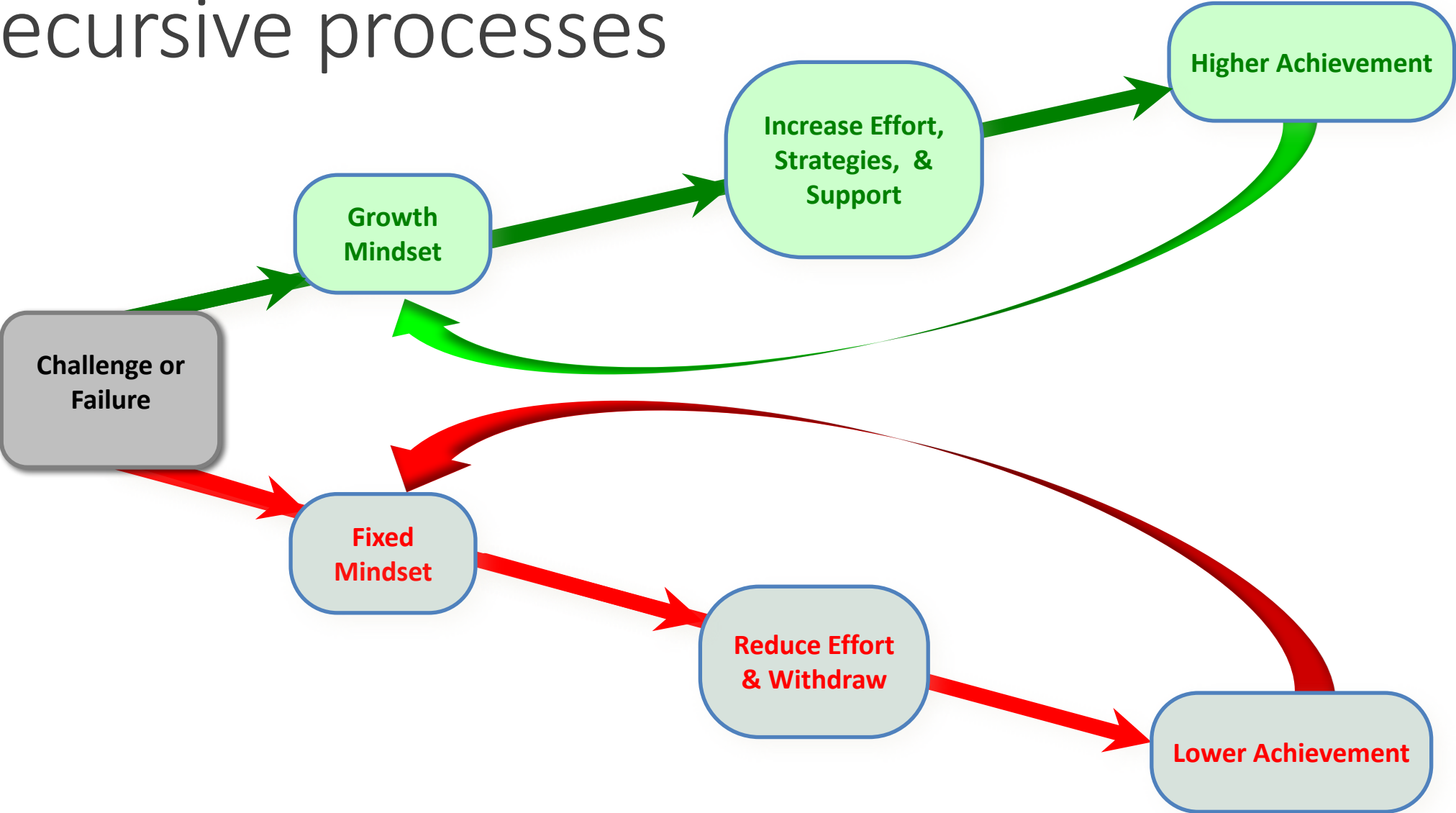


Results – Transfer or AA Degree

Completion: Percent of students who earned an associate's degree or transferred after two years



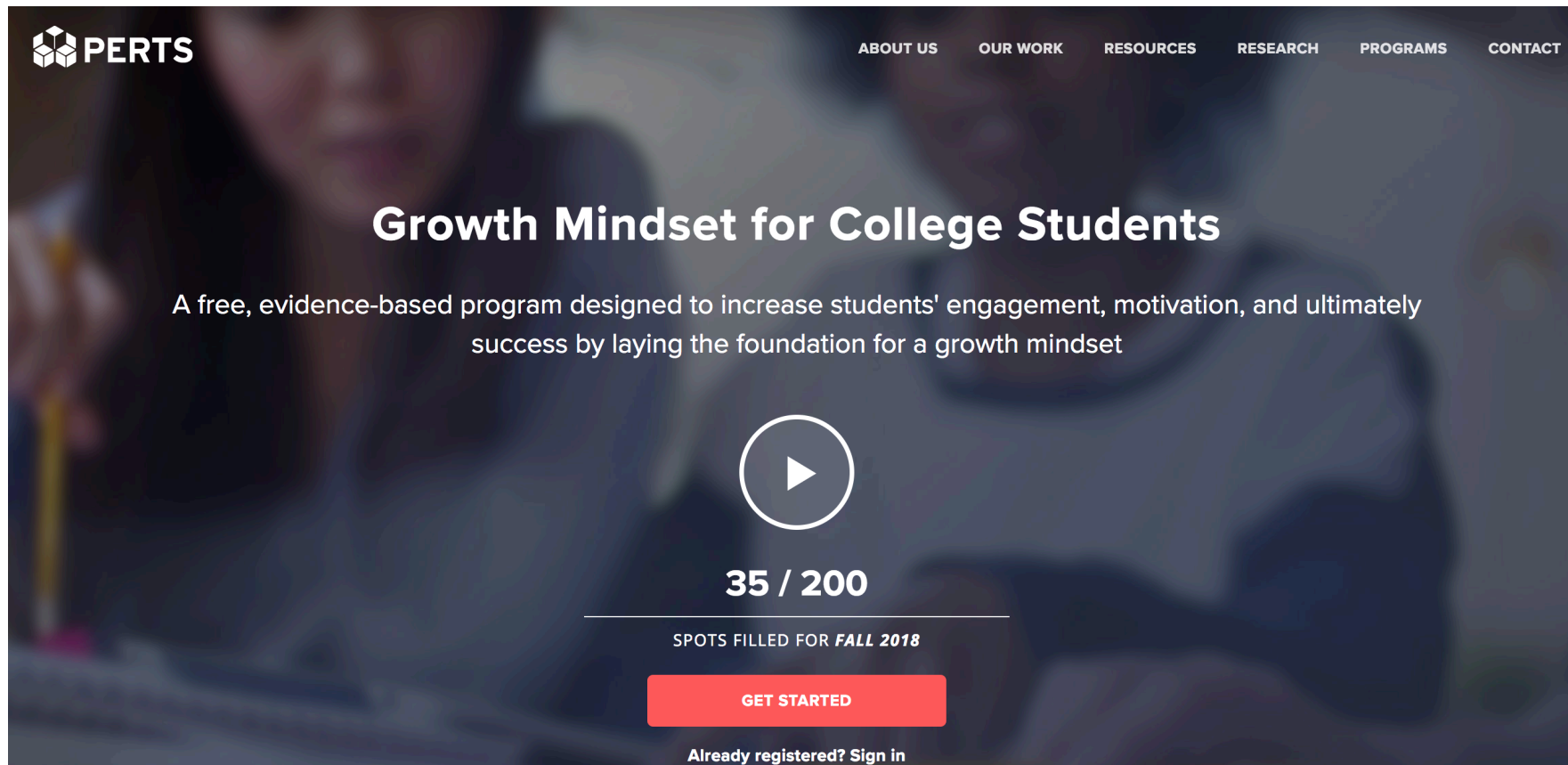
Recursive processes



Growth Mindset Students Programs

perts.net/programs

Free, evidence-based program



The screenshot shows the Perts website interface. At the top left is the Perts logo, and at the top right is a navigation menu with links for ABOUT US, OUR WORK, RESOURCES, RESEARCH, PROGRAMS, and CONTACT. The main content area features a dark background with a blurred image of students. The title "Growth Mindset for College Students" is prominently displayed in white. Below the title is a descriptive paragraph: "A free, evidence-based program designed to increase students' engagement, motivation, and ultimately success by laying the foundation for a growth mindset". A large white play button icon is centered on the page. Below the play button, the text "35 / 200" is shown, followed by a horizontal line and the text "SPOTS FILLED FOR FALL 2018". A red button labeled "GET STARTED" is positioned below the line. At the bottom, there is a link that says "Already registered? Sign in".

PERTS

ABOUT US OUR WORK RESOURCES RESEARCH PROGRAMS CONTACT

Growth Mindset for College Students

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▶

35 / 200

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Mindsets and Emotions

e.

	Growth	Fixed
Goals	To Learn School is a place to grow	To Look Smart School is a place to be judged
Mistakes & failure	Resilient Normal part of learning, surmountable	Helpless Proof of not being smart
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Critical feedback	Receptive Helpful for improving	Defensive Reminder of what they lack so tune out

Negative Emotions Impair Attention & Learning



Regulating negative emotions
depletes cognitive resources and
makes it difficult to focus on learning
(Mangels, et al., 2012; Immordino-Yang & Damasio, 2007)

Growth Mindset & Self-Compassion



Kristin Neff

“Self-compassion recognizes that it's natural and normal to fail and to make mistakes, and that we're worthy of kindness even though we've done something we regret or didn't perform as well as we wanted to.”

Veterans’ level of self-compassion is more predictive of developing PTSD than the level of combat exposure (Hiraoka et al., 2015)

Growth Mindset Teaching Practices

Teaching for Growth Mindset



Kathy Liu Sun, Ph.D.
Stanford University

Study Design:

- Surveys - 6 schools, 40 math teachers, and 3400 of their students
- In- depth case study of 7 teachers over 1 year

Teaching for Growth Mindset



Kathy Liu Sun, Ph.D.
Stanford University

Results:

- Teachers' mindset not predictive of students mindsets
- Teachers' practices were predictive

Growth Mindset Teaching Principles

Set High Standards for All

- Mixed ability grouping / All students participate (Boaler, William, & Brown, 2000)
- Open task structures / Encourage Critical Thinking (Boaler, 1998, Sun, 2015)

Growth Mindset Language

- Authentic praise for the process, not the person (Mueller & Dweck, 1998)
- Normalizing mistakes & failure as part of learning (Moser et al., 2011; Sun, 2015)

Effective Feedback

- Clear goals & formative feedback (Nicol & Macfarlane-Dick, 2006)
- Varied levels of feedback (task-specific and conceptual) (Hattie & Timperley, 2007)
- Develop self-regulated learning skills (Nicol & Macfarlane-Dick, 2006)

Set High Standards for All

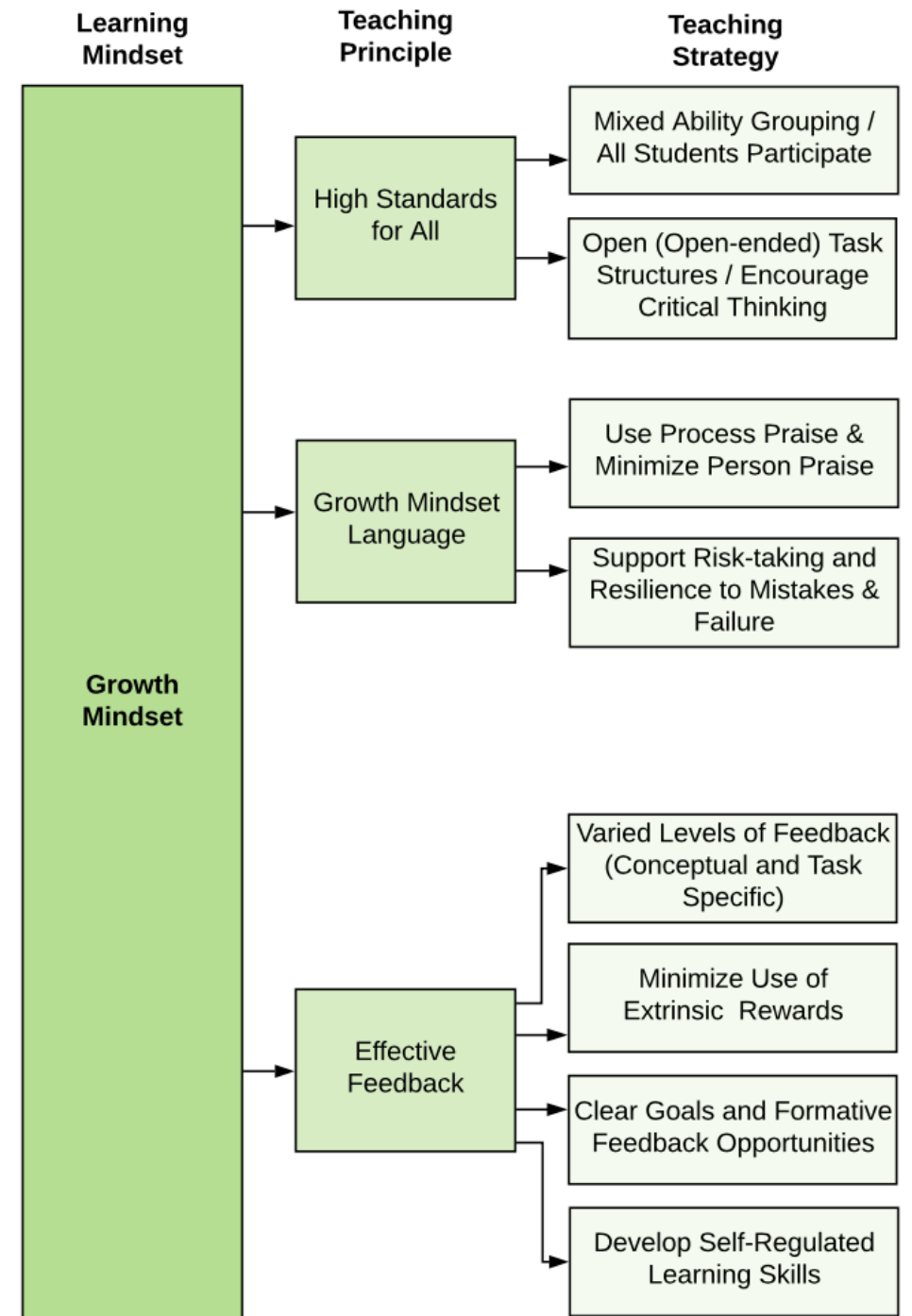
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Growth Mindset Language

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Help Students Stay Focused on Learning

Two growth mindset promoting practices for Math from Leah Alcola

My Favorite No: Learning From Mistakes

<https://www.teachingchannel.org/videos/class-warm-up-routine>

Highlighting Mistakes: A Grading Strategy

<https://www.teachingchannel.org/videos/math-test-grading-tips>



Help Students Stay Focused on Learning

- Return exams and assignments without a grade
- Highlight feedback and mistakes
- Discuss common errors with class
- Post grades the next day
- Provide opportunities to revise or retake

Handwritten student work on math problems and a word problem. The work includes several equations and a word problem solution.

2) $\frac{x}{3} + 4 = 7$
 $\frac{x}{3} = 3$
 $x = 9$

3) $5x - 12 = -27$
 $5x = -39$
 $x = -7.8$

4) $-4(2x - 3) = 28$
 $-8x + 12 = 28$
 $-8x = 16$
 $x = -2$

5) $2x - 5(3x + 1) = 12$
 $2x - 15x - 5 = 12$
 $-13x - 5 = 12$
 $-13x = 17$
 $x = -\frac{17}{13}$

Word problem: "Ruby"
 $x + y + 127 = \text{total number of treats}$
b) The number of treats that Lucia baked was exactly triple the number of treats that Ruby baked. Write an equation that represents the relationship between the number of treats they each baked.
 $3x = y$

c) If the total number of treats at the bake sale was 276, how many treats were baked by each student? Justify your answer.
 $x + y + 127 = 276$
 $x + y = 149$
 $x = 37$
 $y = 112$

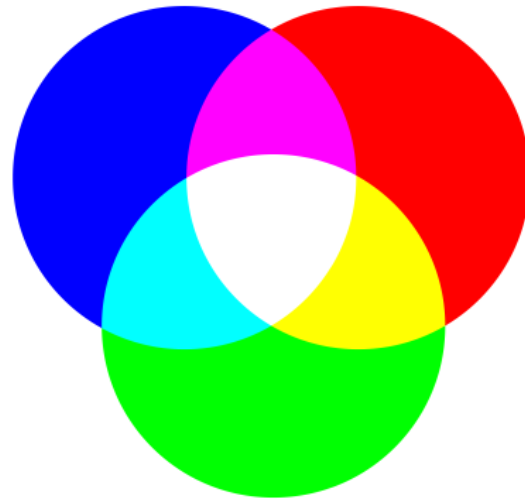
Learning Mindsets

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Relevance – My academic studies are valuable to me and my life

Belonging



Belonging Uncertainty

Decades of research with children and adults alike have shown its impacts:

- Engagement
- Perseverance
- Performance & Productivity
- Openness to critical feedback
- Attitudes towards others

Focus on Deciphering Ambiguous Cues

When we're uncertain of our belonging, our attention shifts to focus on deciphering the meaning of **ambiguous social cues**



Distraction from negative emotions also harms performance

Belonging and the Transition to College

Intervention: Normalize belonging uncertainty

“Everyone worries at first about whether they belong in college but, with time, they start to feel at home”

Free, evidence-based program
www.perts.net/programs



Social-Belonging for College Students

A free, evidence-based program designed to support a sense of belonging on campus to improve engagement, retention, and achievement for students at four-year colleges and universities.



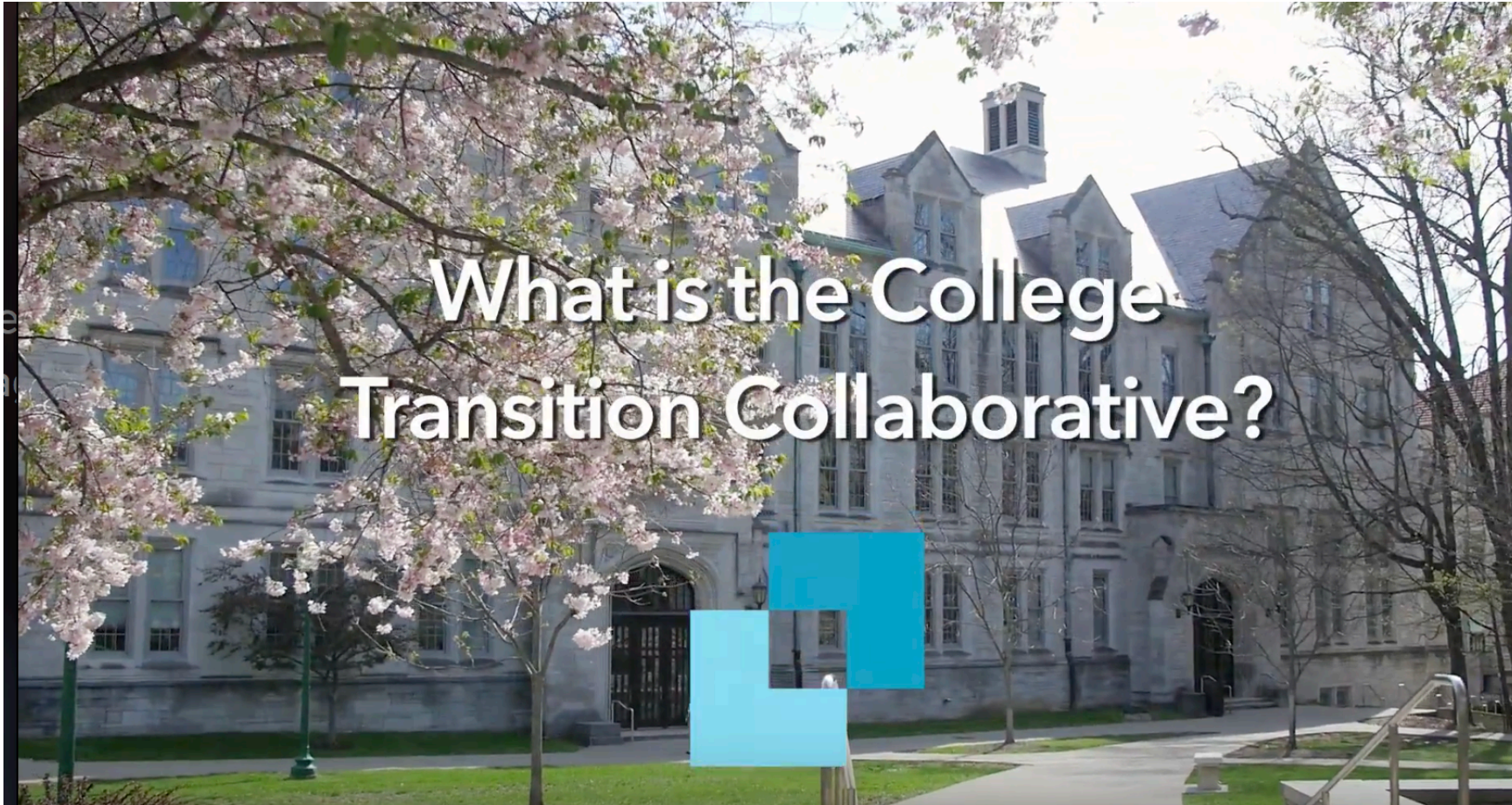
47 / 200

SPOTS FILLED FOR *FALL 2018*

[GET STARTED](#)

Already registered? [Sign in](#)

Watch the video:
perts.net/orientation/cb



Belonging Teaching Practices

Belonging Teaching Principles

Instructor Caring & Respect

- Convey belief in their competence (remove ambiguity) (Yeager et al., 2014)
- Form connections with students (Furrer & Skinner, 2003)
- Empathic discipline (Okonofua, Paunesku, & Walton, 2016)
- Normalize belonging uncertainty in new settings (Walton & Cohen, 2011)

Respectful & Inclusive Peer-to-Peer Relationships

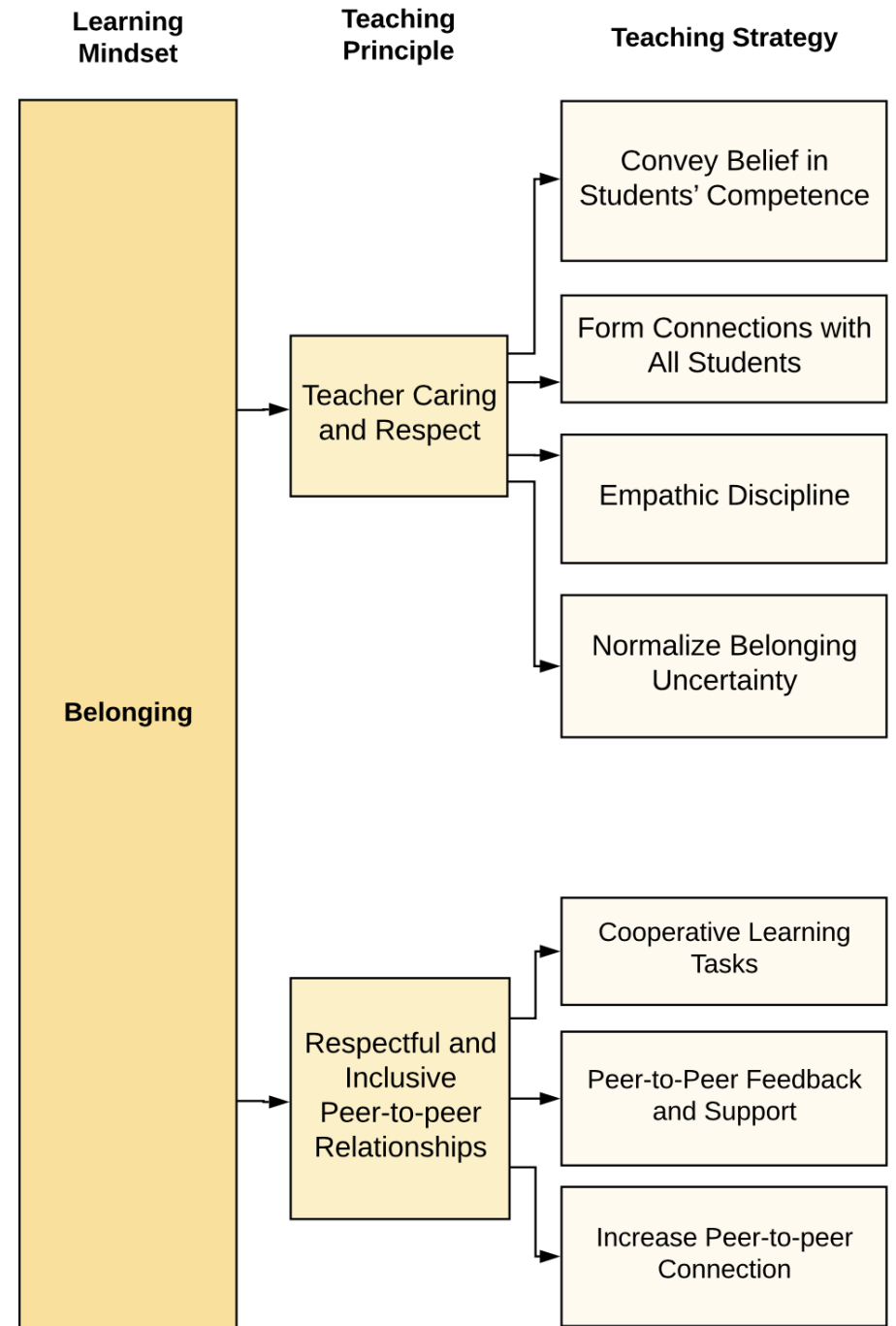
- Utilize cooperative learning tasks (Johnson and Johnson, 1999, 2009)
Use peer-to-peer feedback and support (Wentzel & Caldwell, 1997)
- Increase peer-to-peer connections (Walton, Cohen, Cwir, & Spencer, 2012)

Instructor Caring & Respect

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Respectful & Inclusive Peer-to-Peer Relationships

- Utilize cooperative learning tasks
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- Increase peer-to-peer connections



Growth Mindset and Belonging Teaching Practices



Miguel Powers, Ed.D.
Fullerton College, CA

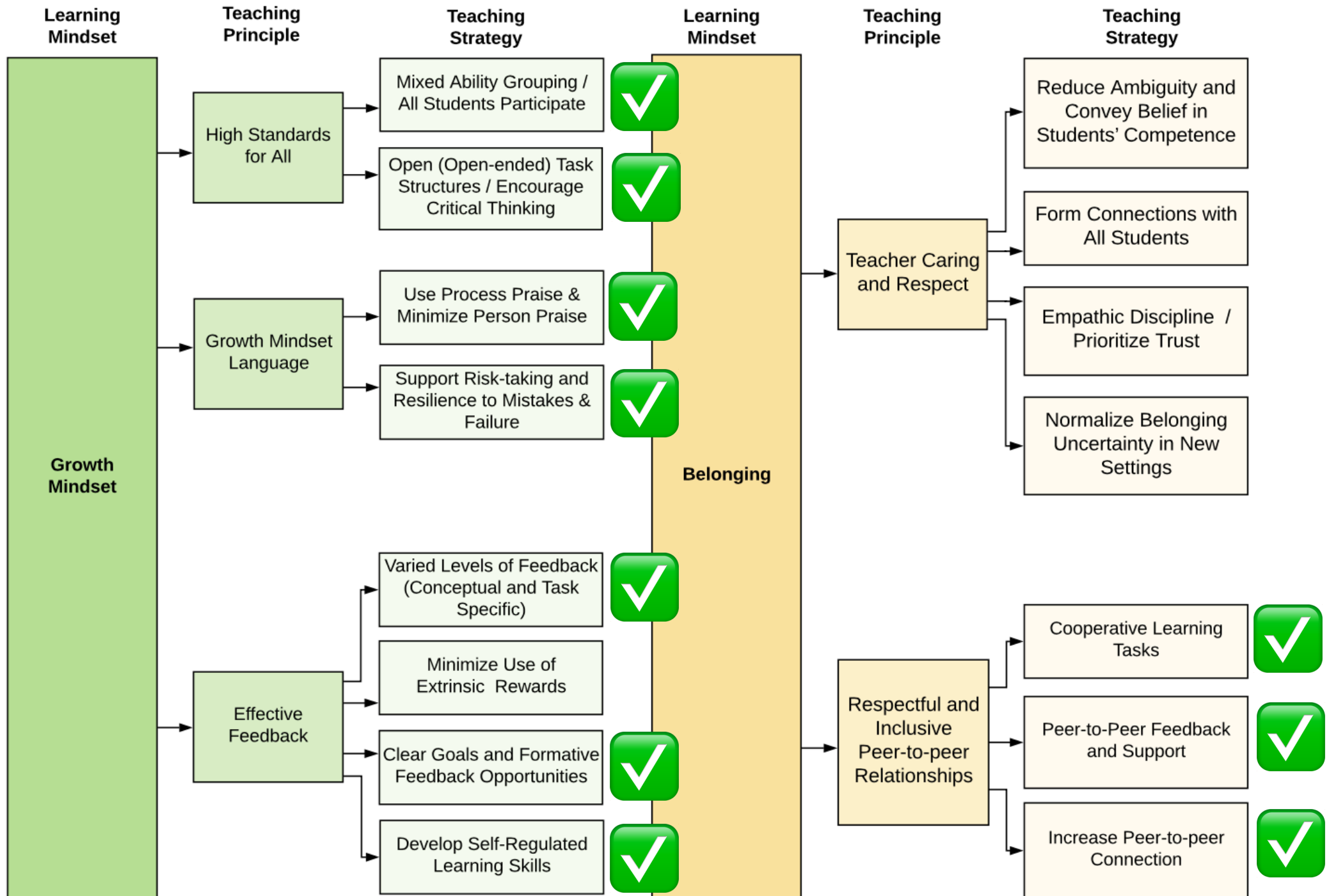
Two short videos of community college faculty, Miguel Powers Ed.D sharing his learning mindset promoting practices:

Training students on giving peer-to-peer feedback

http://tiny.cc/Powers_peer_feedback

Cooperative learning to write a research paper

<https://tinyurl.com/Powers-pyramid-papers>

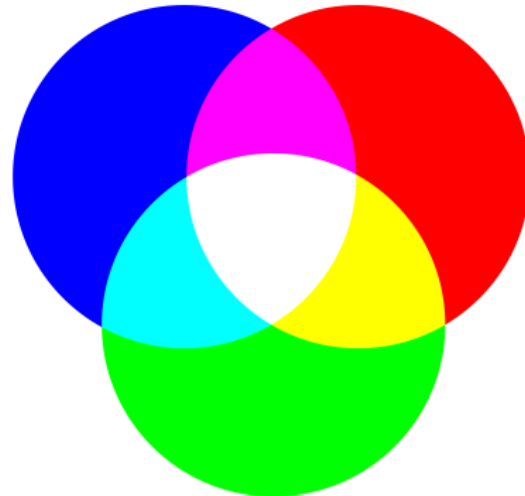


Learning Mindsets

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Relevance/Purpose – My academic studies are valuable to me and my life

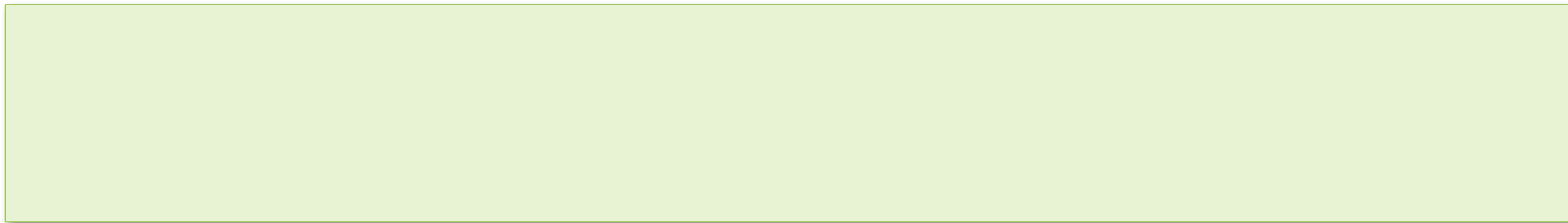


Relevance / Purpose

Purpose & Relevance

Relevance: My academic studies are valuable to me and my life

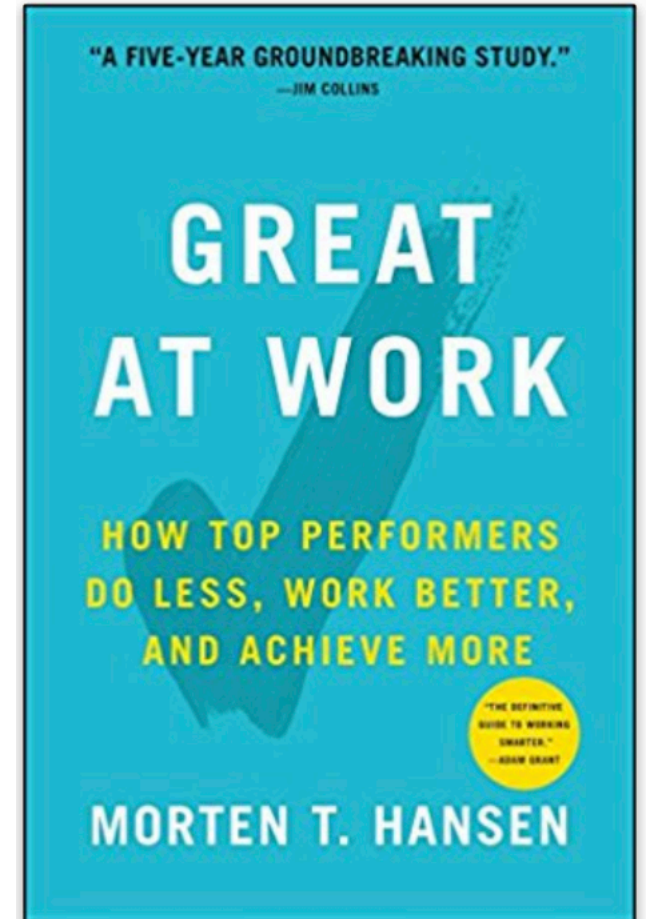
Purpose: My academic studies will help me help others



Impact of Having a Meaningful “Why”

In students and adults, having a sense of purpose is associated with greater:

- Productivity
- Academic persistence
- Well-being



Mindsetkit.org – Free Online Resources

Teachers ▾ For Parents For Mentors Professional Development 🔍

Everything about **mindset**.

The Mindset Kit is a free set of online lessons and practices designed to help you teach and foster adaptive beliefs about learning.

[Learn more](#)

Summary

- Mindsets have a powerful impact on engagement and achievement



Summary

- Mindsets have a powerful impact on engagement and achievement
- Educators' practices can help promote learning mindsets
- There are free evidence-based resources to help!
 - PERTS.net – perts.net/programs
 - The Mindset Kit – mindsetkit.org
 - Mindset Scholars Network – mindsetscholarsnetwork.org

Questions?

