The Implications of Mindsets for Learning and Instruction

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What are mindsets?

Mindsets are a rebranding, popularized by Dr. Carol Dweck, of implicit theories of intelligence.

- *Growth mindset* = **malleable** theory of intelligence
- *Fixed mindset* = **entity** theory of intelligence

Mindsets can be global or domain-specific.

Growth mindset is better.

Professional Development

MindsetKit.org (pictured above; free) can help you understand and apply mindsets in your practice.

Mindsets are important for educators, too. What are your mindsets for your teaching abilities? Technological abilities? Career trajectory? Fixed mindset is a limiting belief. Becoming **explicitly aware** of your mindsets may be the first step toward replacing fixed mindsets with growth mindsets.

What happens with fixed mindset?

Learners believe they are **stuck** where they are

Learners **give up** too easily

Since abilities are fixed, learners become preoccupied with **concealing their weaknesses**

Fixed mindset becomes part of their **identity**, e.g., **"I'm not a math person."**

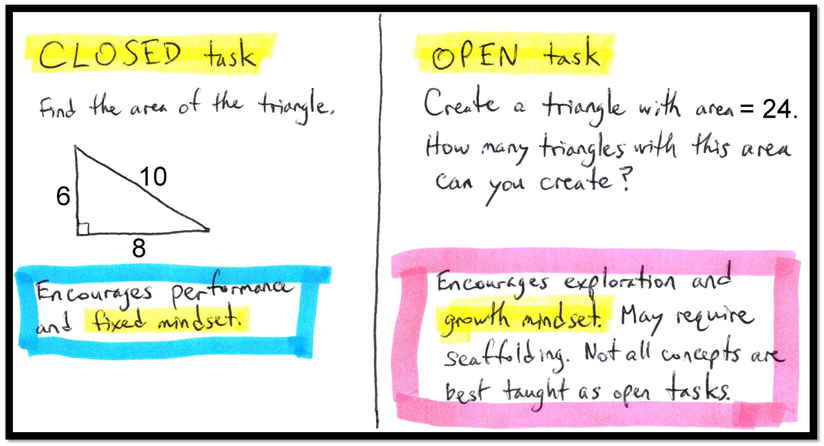
What happens with growth mindset?

Learners **believe** they can get better

Learners are **less afraid** to fail publicly

Instead of saying to successful peers: **"you're so lucky,"** they ask: **"how did you get there?"**

Growth mindset may promote health, well-being, good emotions, low stress, and achievement (King, 2012; Romero et al., 2014; Yeager et al., 2014).



Giving **open tasks**, when feasible and with appropriate scaffolding, can help encourage **growth mindset**. It's important to give students enough time to struggle. Giving answers too quickly can have dire consequences.

As an educator, how can I impart growth mindset?

Praise effort, not ability. Don't say things like **"you're so smart"** (person-oriented praise).

Instead, say things like **"great job—you applied yourself well"** (process-oriented praise).

Think about how you interact with students. ***Encourage*** students to use effective strategies.

*Teachers who believe their students' abilities are **fixed**:*

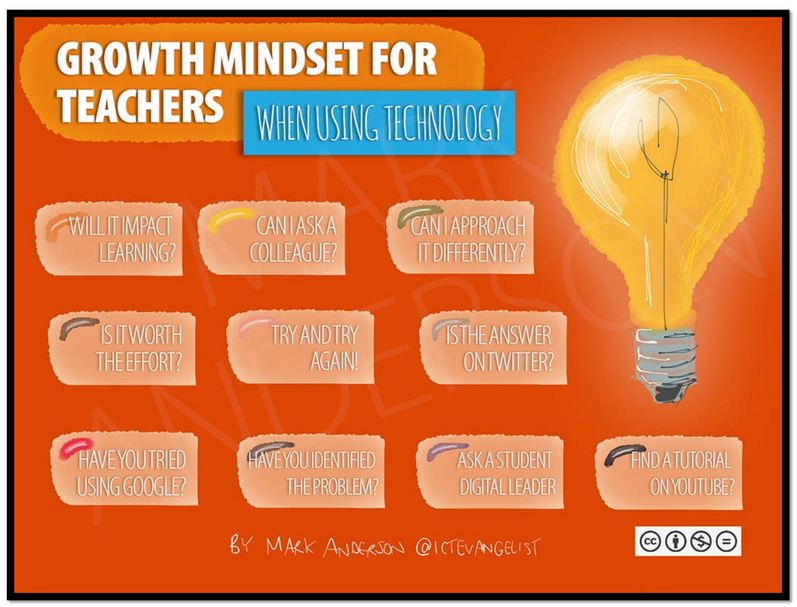
- May have a **performance-avoidance** goal orientation for teaching (Shim et al., 2013)
- May be quick to make **negative judgments** about students' abilities (Rattan et al., 2012)
- May give "comforting" feedback that **belittles and demotivates** students (Rattan et al., 2012)

*Teachers who believe their students' abilities can **grow**:*

- Tend to give **strategy-oriented feedback** that motivates students (Rattan et al., 2012)
- Tend to praise hard work, promoting **task persistence and enjoyment** (Mueller & Dweck, 1998)
- May have and impart a **mastery** goal orientation for teaching and learning (Shim et al., 2013)

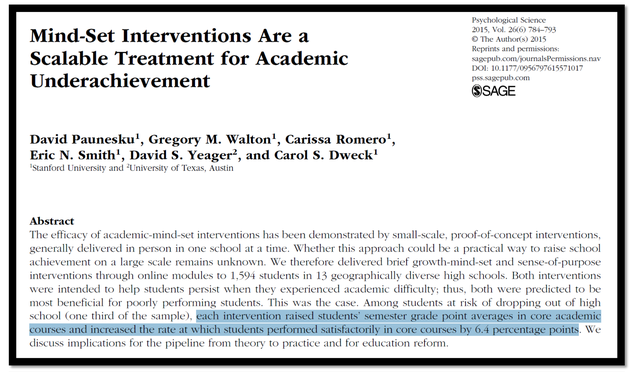
"The teacher should portray challenges as **fun and exciting**, while portraying easy tasks as **boring and less useful** for the brain" (Dweck, 2010).

"Implicit theories are **indeed consequential** for **self-regulatory processes** and **goal achievement**" (meta-analysis by Burnette et al., 2013).



Mindsets are **distinct** from both achievement goals (De Castella & Byrne, 2015; Dinger et al., 2013) and self-efficacy (Komarraju & Nadler, 2013).

The research below attests to the veracity of mindsets and the power of mindset interventions:



Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement

Psychological Science
2015, Vol. 26(6) 784–793
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sagepub.com/journalsPermissions.nav
DOI: 10.1177/0956797615571017
pss.sagepub.com
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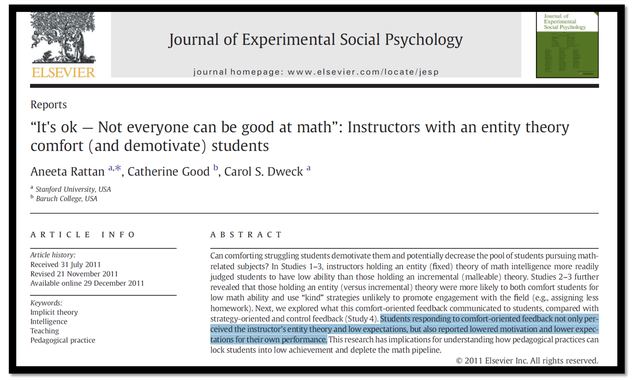
Abstract
The efficacy of academic-mind-set interventions has been demonstrated by small-scale, proof-of-concept interventions, generally delivered in person in one school at a time. Whether this approach could be a practical way to raise school achievement on a large scale remains unknown. We therefore delivered brief growth-mind-set and sense-of-purpose interventions through online modules to 1,594 students in 13 geographically diverse high schools. Both interventions were intended to help students persist when they experienced academic difficulty; thus, both were predicted to be most beneficial for poorly performing students. This was the case: Among students at risk of dropping out of high school (one third of the sample), each intervention raised students' semester grade point averages in core academic courses and increased the rate at which students performed satisfactorily in core courses by 6.4 percentage points. We discuss implications for the pipeline from theory to practice and for education reform.



Journal of Experimental Social Psychology
journal homepage: www.elsevier.com/locate/jesp
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Reports

"It's ok – Not everyone can be good at math": Instructors with an entity theory comfort (and demotivate) students

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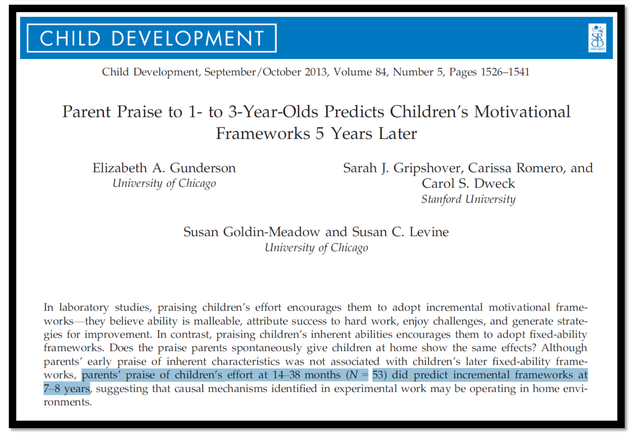
ARTICLE INFO
Article history:
Received 31 July 2011
Revised 21 November 2011
Available online 29 December 2011
Keywords:
Implicit theory
Intelligence
Teaching
Pedagogical practice

ABSTRACT
Can comforting struggling students demotivate them and potentially decrease the pool of students pursuing math-related subjects? In Studies 1–3, instructors holding an entity (fixed) theory of math intelligence more readily judged students to have low ability than those holding an incremental (malleable) theory. Studies 2–3 further revealed that those holding an entity (versus incremental) theory were more likely to both comfort students for low math ability and use "kind" strategies unlikely to promote engagement with the field (e.g., assigning less homework). Next, we explored what this comfort-oriented feedback communicated to students, compared with strategy-oriented and control feedback (Study 4). Students responding to comfort-oriented feedback not only perceived the instructor's entity theory and low expectations, but also reported lowered motivation and lower expectations for their own performance. This research has implications for understanding how pedagogical practices can lock students into low achievement and deplete the math pipeline.



CHILD DEVELOPMENT
Child Development, September/October 2013, Volume 84, Number 5, Pages 1526–1541

Parent Praise to 1- to 3-Year-Olds Predicts Children's Motivational Frameworks 5 Years Later

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In laboratory studies, praising children's effort encourages them to adopt incremental motivational frameworks—they believe ability is malleable, attribute success to hard work, enjoy challenges, and generate strategies for improvement. In contrast, praising children's inherent abilities encourages them to adopt fixed-ability frameworks. Does the praise parents spontaneously give children at home show the same effects? Although parents' early praise of inherent characteristics was not associated with children's later fixed-ability frameworks, parents' praise of children's effort at 14–38 months ($N = 53$) did predict incremental frameworks at 7–8 years, suggesting that causal mechanisms identified in experimental work may be operating in home environments.

Poster by Richard Thripp, who holds a B.S. in Psychology and M.A. in Applied Learning & Instruction from University of Central Florida and is starting in the Education Ph.D., Instruction Technology program in fall 2016 at the same university. **me@thripp.com | http://thripp.com/mindsets**

Thanks to Drs. Bobby Hoffman and Richard Hartshorne for guidance.

References available separately. You may photograph and share this poster for not-profit use. Inclusion of journal article abstracts and MindsetKit.org screenshot constitutes fair use. Thanks to Mark Anderson for releasing the "Growth Mindset for Teachers When Using Technology" figure with Creative Commons BY-NC-ND license. Closed vs. open task figure by Richard Thripp.

The Implications of Mindsets for Learning and Instruction

A literature review (April 2016) and poster presentation (July 2016) by Richard Thripp, M.A.

Starting August 22, 2016, I am an Education Ph.D. student, Instructional Technology track, at University of Central Florida.

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Relevance and Implications of Mindsets

It is rare to find a class of educational interventions that are as simple and replicable as mindsets. While mindsets are a relabeling, popularized by Dweck (2006), of implicit theories of intelligence, evidence suggests implicit theories are differentiated from both achievement goals (De Castella & Byrne, 2015; Dinger, Dickhäuser, Spinath, & Steinmayr, 2013) and self-efficacy (Komarraju & Nadler, 2013). This means that mindsets frequently emerge as unique predictors for a host of student outcomes. Combined with their stability and amenability to manipulation (e.g., Paunesku et al., 2015), mindsets are highly relevant to teacher education and practice.

Outcomes for this Poster

Participants will learn about the educational research behind mindsets. Ideally, they will gain motivation to learn more about mindsets, to implement strategies that foster growth-mindset in their practice, and to recommend the topic to colleagues.

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