

i teach

exchanging ideas  
on teaching

#iteachwustl

## **Welcome**

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## **Plenary: Applying a Growth Mindset to Teaching**

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Executive Director, The Teaching Center

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THE  
TEACHING CENTER



# Applying a Growth Mindset to Teaching

Gina Frey

# Theories of Intelligence Scale-Short Form



#	Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree
1.						
2.						
3.						
4.						

# Theories of Intelligence Scale-Short Form

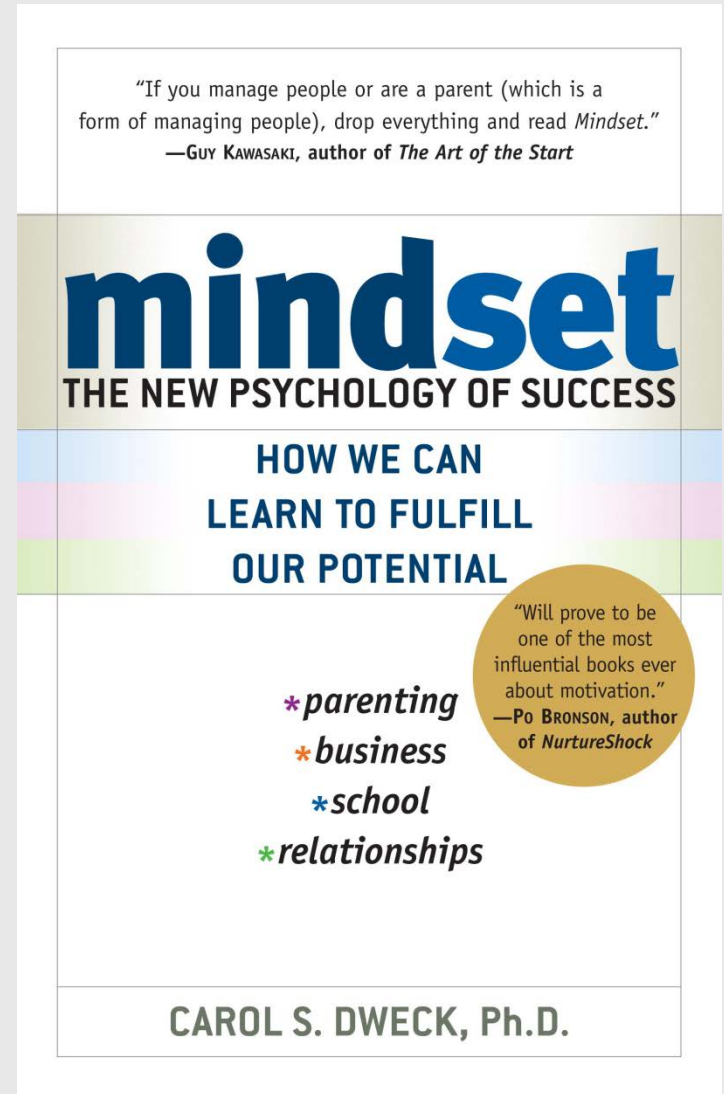


#	Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree
1.	You have a certain amount of intelligence, and you cannot really do much to change it.					
2.	Your intelligence is something about you that you cannot change very much.					
3.	To be honest, you cannot really change how intelligent you are.					
4.	You can learn new things, but you cannot really change your basic intelligence.					

# Implicit Theories of Intelligence

Which concern an individual's personal view about the nature of intelligence

- Individuals' mindsets differ with regard to the assumed malleability of their intellectual abilities
- Degree of belief in malleability vary on a continuum from an incremental view to an entity view



# Types of Mindsets about Intelligence



## Fixed (Entity)

Intelligence is a fixed, **innate** quantity and cannot be changed

## Growth (Incremental)

Intelligence is **malleable**; can be changed and potentially increased

# Characteristics of Limiting Mindsets



## Fixed (Entity) View

Outcomes focused

Motivated by need to validate existing beliefs of self (High effort = Low ability)

Assesses performance relative to classmates

Confidence is fragile

Screens out negative feedback

Focuses on repairing self-esteem in response to failure (blames others)

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## Growth (Incremental) View

Process focused

Motivated by learning or developing one's self (prefers challenges and stretch assignments)

Assesses performance relative to material mastery

Confidence is resilient

Seeks accurate (balanced) feedback

Focuses on working harder in response to failure (takes responsibility)



# Performance after Evaluation



- Study: 68 undergraduates (75%F) in a psychology course
- Procedure:
  - ✦ Took mindset survey
  - ✦ Task was a computer simulation as “manager” of a factory work group. Two training blocks and then experimental block
  - ✦ Received feedback on performance after each training block
  - ✦ Completed perception surveys and performance was evaluated

# Performance after Evaluation



- **Results:**

- ✦ In training blocks, growth mindsets
  - Had stronger self-efficacy
  - Were less dissatisfied with own performance
  - Set more challenging self-performance goals
- ✦ In experimental block, growth mindsets achieved a higher level of performance

# Environmental Mindset affects Sense-of-Belonging to a Field



- Study: 1005 undergraduates (53%F) from highly selective university in NE US
- Procedure:
- In calculus courses in a department, after each exam,
  - Completed “sense of belonging to Math” survey 3 times over the course of the semester (8-pt Likert scale)

# Environmental Mindset affects Sense-of-Belonging to a Field



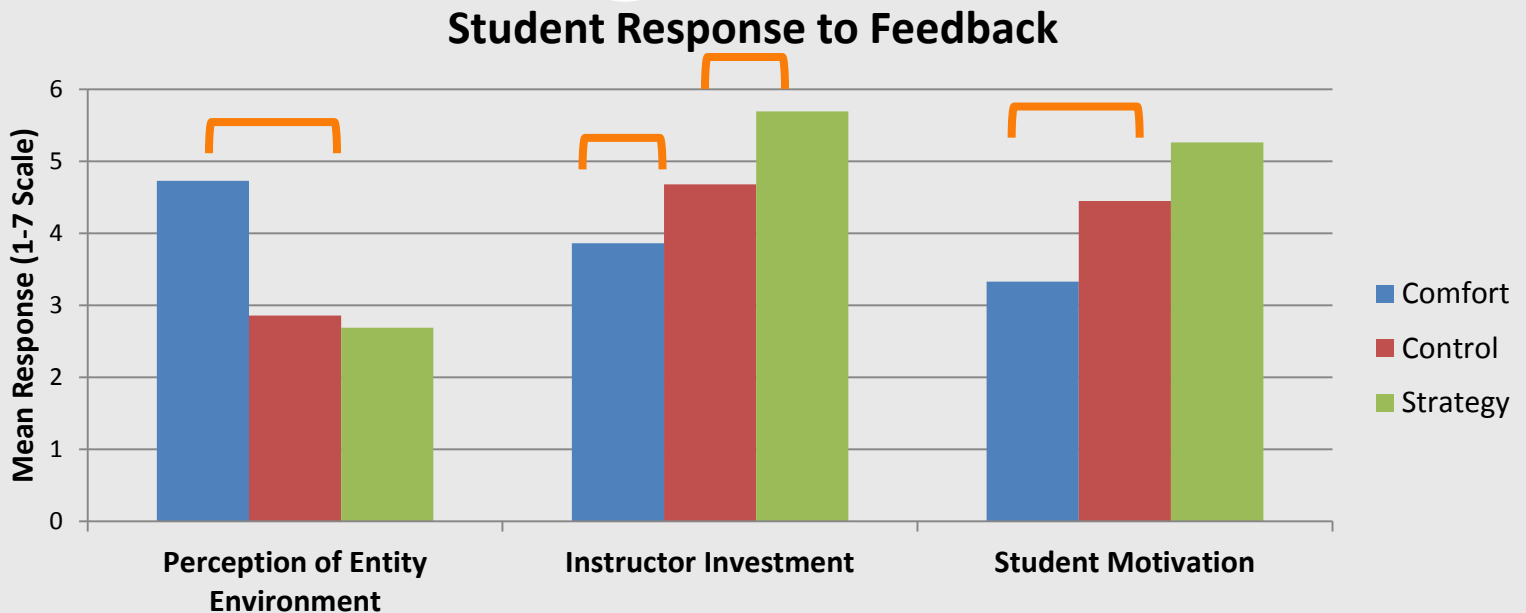
- **Results:**
  - ✦ For all students (male and female)
    - the more that students perceived a **fixed-mindset environment**, the lower their sense of belonging to the math field.
  - ✦ The more that women perceived a **growth-mindset environment**, the more they maintained a sense of belonging to the math field
    - Even when they perceived the environment as highly gender-stereotypical

# Impact of Instructor Feedback on Students



- 54 undergraduates
- Read scenario of a calculus class and instructor feedback to individual students after first exam
- Completed a perception survey
- 3 Types of feedback
  - Comfort-oriented (focused on student strengths)
  - Strategy-oriented (provided concrete suggestions to improve)
  - Control (contained two statements of care that were present in the other two types of feedback)

# Impact of Instructor Feedback on Students



## Results:

- Feedback affected students'
  - ✦ Perceptions of instructors' beliefs
  - ✦ Perceptions of Instructor's expectations of them
  - ✦ Motivation and performance expectation and final grade

# Key Insights about Mindsets



Student mindset affects student reaction and improvement in performance after evaluation

Mindset prevalent in the environment affects student sense of belonging in a field

Instructor feedback affects student behavior toward future exams/evaluations

# Scoring your Survey



- Numerical values:

SA = 1; A = 2, MA = 3, MD = 4, D = 5, SD = 6

- Find Mean: sum up your questions and divide by 4

- Mean > 3.5, more of a Growth Mindset

Mean < 3.5, more of a Fixed Mindset

- More detailed Mindset survey can be found at URL:

<http://mindsetonline.com/testyourmindset/step1.php>





**What are some strategies to  
encourage or foster a growth  
mindset in our classes?**

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