

## Research Questions

1. Does instruction in design thinking strategies increase the level of growth mindset in eighth grade science students?
2. How does the initial mindset category impact student display of design thinking behaviors during novel problem solving?

## Data Collection

	Data Sources
1	Pre- and Post- Mindset Assessment Tool Results
2	Student Interviews
3	Student Self-Reflections
4	Teacher Observations with the Design Thinking Behaviors Rubric

## Treatment (4 weeks)

### Experimental Group (n=47):

- Take Pre-Treatment Mindset Assessment Tool.
- **Experience Intro to Design Thinking Lesson.**
- Learn about density and buoyancy and participate in **one design challenge for each unit.**
- Take Post-Treatment Mindset Assessment Tool.

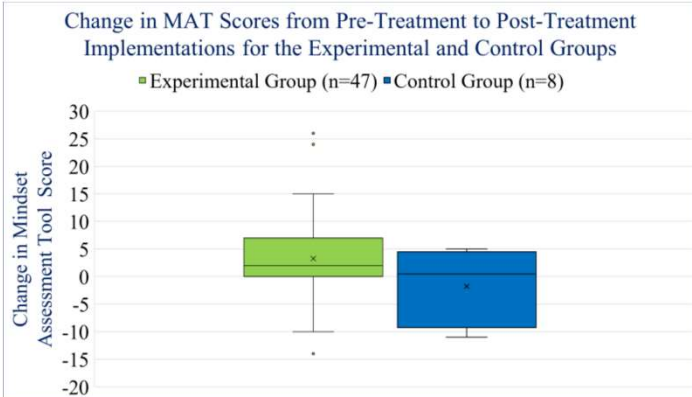
### Control Group (n=8):

- Take Pre-Treatment Mindset Assessment Tool.
- Learn about density and buoyancy.
- Take Post-Treatment Mindset Assessment Tool.

## Results

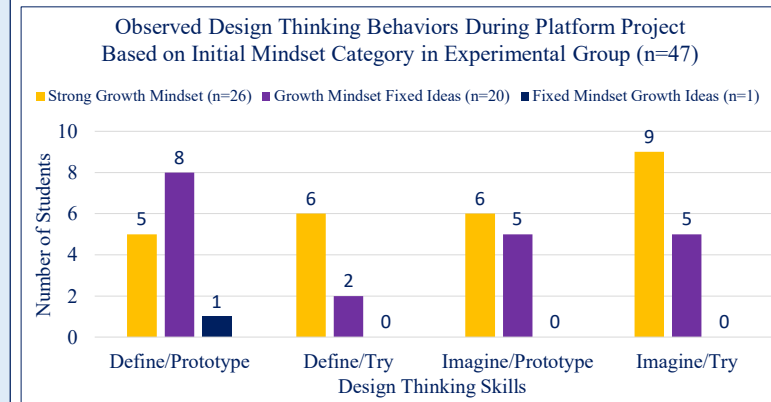
### Research Question 1

- The data show a **positive connection** between experiencing design thinking instruction and an increase in students' level of growth mindset.
- A single tailed, two sample mean t-test revealed a **significant, positive change** in the scores of the experimental group as compared to the control group (P = 0.042).



### Research Question 2

- The data **do not show a distinct pattern** between initial mindset category and student display of design thinking behaviors.
  - Strong Growth Mindset individuals were most likely to engage in Imagine/Try Behaviors (35%).
  - Growth Mindset Fixed Ideas individuals were most likely to engage in Define/Prototype Behaviors (40%).



### Value

- Evidence to support that experiencing design thinking instruction **increases the level of growth mindset** in eighth grade science students.
- **Professional growth** as a design thinking coach.
- Development of **student reflection process** to that encourages a growth-oriented perspective on student progress and achievement.

Scan the QR code for additional details!

