



THE IMPACTS OF TEACHING GROWTH MINDSET STRATEGIES TO STUDENTS IN INQUIRY SCIENCE 2



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BACKGROUND

My goal was to increase student motivation and confidence by teaching growth mindset strategies to general science students in 10th grade Inquiry Science 2. This project is based on research conducted primarily by Carol Dweck. Dweck found that students with a growth mindset believe they can improve their intelligence over time through hard work. These students also appreciate challenges and constructive feedback. In contrast, students with fixed mindset believe they are born with a certain amount of intelligence, and are more concerned with getting the correct answer than the learning process. Fixed mindset students may feel uncomfortable with challenging assignments and getting feedback. In this study, I looked for shifts in student mindset and the impacts those changes have.

RESEARCH QUESTIONS

Primary Research Question:

What are the impacts of teaching growth mindset research and practices to 10th grade general science students over the course of 6 weeks?

Sub-questions:

- ❖ In what ways do mindsets change after being taught growth mindset curriculum and is it retained?
- ❖ How do growth mindset lessons impact student learning in science?
- ❖ How do students apply their learning about growth mindset to other high school courses and life experiences?
- ❖ In what ways does learning about and teaching about growth mindset research impact me, as a teacher?

RESEARCH DESIGN



Pre-Treatment Period (6 Weeks)

Data Sources: Student Surveys, Student Interviews, Teacher Surveys, 6 Week Grades



Treatment (6 Weeks)

Six Weekly 20 minute lessons:

- | | | | | | |
|--------------------|-------------------------|----------------------|-----------------|-------------------------|-----------|
| 1. Neuroplasticity | 2. Measure Your Mindset | 3. Grow Your Mindset | 4. Study Skills | 5. Failure & Challenges | 6. Review |
|--------------------|-------------------------|----------------------|-----------------|-------------------------|-----------|

Data Sources: Student Answers from Lessons, Teacher Journal, 12 Week Grades

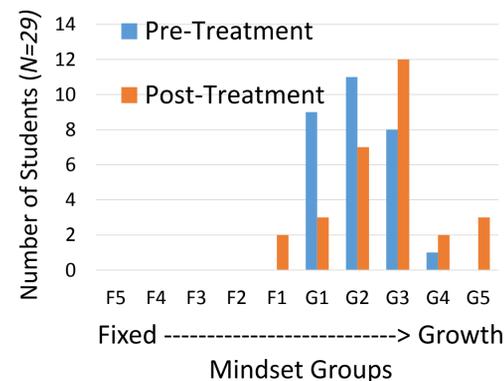


Post-Treatment Period (6 Weeks)

Data Sources: Student Surveys, Student Interviews, Teacher Surveys, 18 Week Grades



RESULTS

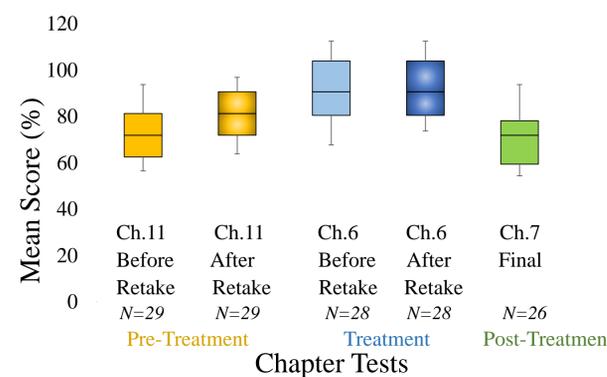


How Mindsets Changed:

- 52% of students became more growth minded, 38% stayed the same, and 10% moved down a mindset level.
- 81.5% of students learned something new from the lessons.
- “I am more positive now. I know I can figure it out and improve.”
- “It was good to learn about mindsets because some people think they can’t, but they can.”

Impacts On Student Learning:

- Mean test grades were the highest (91%) at the conclusion of the treatment period (ch.6).
- 31% of students did test retakes during the treatment compared to 4% before and after treatment.
- Students turned in 8% more late assignments during the treatment chapter.
- On time assignment completion and grading period grades did not improve during the treatment period.



Impacts Beyond My Classroom:

- 92% of students agreed to some extent that they could apply the growth mindset to other classes.
- 90% of other content area teachers surveyed, noted improvements in assignment completion, motivation, confidence, engagement, and mindset.
- All students could apply what they learned to their relationships.

Impacts On The Teacher:

- Student behavior problems declined and student engagement increased during the treatment period.
- 93% of students agreed to some extent that I promoted a growth mindset with verbal feedback.

CONCLUSION

Many students became more growth minded. These students made personal connections during the mindset lessons that increased student willingness to do late work and retake tests. Student mean test scores also went up. Factors that may have prevented students from increasing their mindset included poor attendance or lack of engagement in the mindset lessons. Both the students and their math, English, and social studies teachers noted improvements in learning and behavior in these courses. Students also discussed using mindset thinking to help them resolve conflicts with their peers. I noted an increase in student engagement and a decrease in behavior problems, making teaching more enjoyable.

APPLICATION

- I now have a growth mindset tool kit that I will take with me into every class I teach.
- A fixed mindset can show up in any body of learners. Students need to be aware of their mindset and they need encouragement to foster a growth mindset.
- I will start the year off with a mindset survey and sprinkle the lessons in throughout the semester.
- It is easy to slip back into fixed mindset thinking, so having a toolkit ready to go for constant growth mindset reinforcement is essential.

