"HELPING STUDENTS BE S.M.A.R.T."
INCREASING MOTIVATION THROUGH GOAL-SETTING AND REFLECTION
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Background

This goal of my action research project was to benefit as many of my students in class and hopefully in other realms of their life as well. I teach multiple inclusive co-taught biology classes. These classes expose me to a very large and diverse segment of students at my school. Coming up with a strategy that would work well to increase academic success for all of these students was difficult. Instead of focusing on a strategy that may increase academic performance alone I decided to focus on a general skill that could also potentially benefit my students with executive functioning.

Questions

*What impact does regular goal setting and self-reflection have on student self-efficacy and academic success?"

➢ How do goal-setting strategies affect my student's opinions of biology and science classes?
➢ How does a student's belief in how they learn (growth vs. fixed mindset) relate to their self-efficacy?
➢ How does self-efficacy of my students relate to their academic success?
➢ How do students with IEPs and 504 plans compare to students that do not receive accommodations?

Sample

The students sampled are from three inclusive Sophomore Co-taught General Biology classes. 78 students with and without accommodations will be sampled. There are 36 female students and 42 male students.

Figure 1:
Percentage of Students with and without Accommodations by Sex
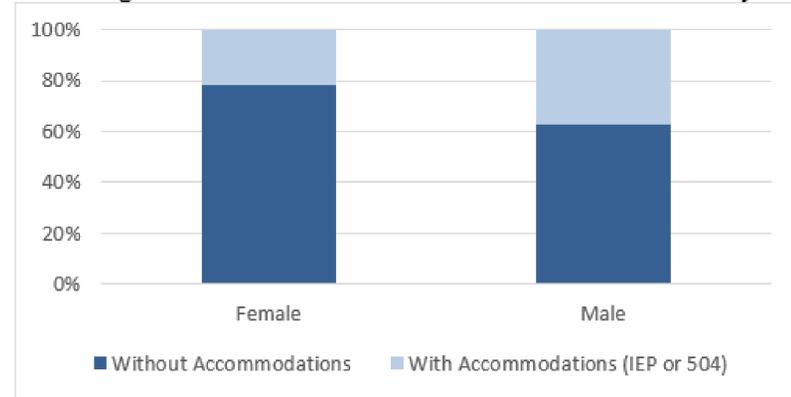
[N=78]

Treatment

Baseline data was collected during an initial 4 week unit. During this unit class resumed as normal and academic/Survey data was collected. During the following 4 week unit the S.M.A.R.T. goals system was introduced as the treatment. Students completed a goals journal on a twice-weekly basis during the treatment. Students were required to create short –term and long-term goals throughout the treatment unit.

Specific — Who? What? Where? — Use details while keeping the goal clear and succinct. What will you do?
Measurable — From? To? — Identify evidence for when you reach the goal. How will you know?
Attainable — How? — Make sure you are able to put the goal into action. Can you achieve it?
Relevant — Why? Worthwhile? — The goal should meet personal interests, skills, and resources. Is it relatable?
Timely — When? — Create a time frame for accomplishing the goal. What is the deadline?

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Student Examples of SMART goals

Students used SMART goals forms, private journals, and/or online journaling.
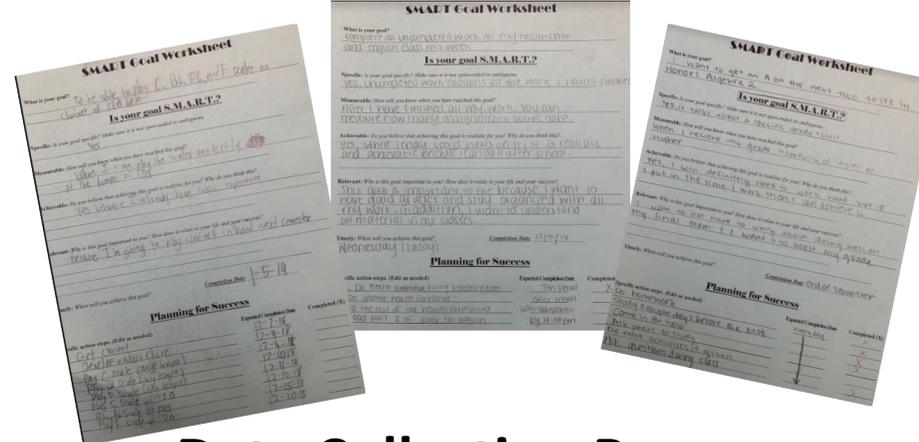
Data Collection Process

Figure 2: Data Triangulation Matrix

Data Triangulation matrix Research Questions:	Data Sources				
	1	2	3	4	5
	Student Informational Survey	Pre-test/ Post-test	Student SMART goals and reflection sheet.	Individual Student Interviews	Teacher Feedback observations

Data Analysis

Self-efficacy:

Student showed growth in self-efficacy and gained a more positive outlook towards science and school.
The majority of students enjoyed the process of setting goals and reflecting on their progress.
Students showed growth in their comfort in class as well as their opinions of science and their abilities in science.

Student quotes:
"After learning about SMART goals I feel much more comfortable preparing for classes and tests."
"Goal setting helped me stay on track in class and helped me build confidence that I was doing things right."
"I liked looking at my goals and checking things off, it made me feel like I accomplished something important."
"I felt more in control when I was able to choose my goals."

(When using Likert survey data, students did not show statistical growth in self-efficacy when goal-setting and reflection were implemented.)

Academics:

Goal setting and reflection had a significant impact on academic growth within a unit.
There was a difference in academic growth during the treatment unit versus the non-treatment unit.

	Non-treatment Unit	Treatment Unit
Average Normalized Gains	0.58	0.67
P-value between Units	0.0002279 (<0.05 showing significance)	

Conclusions

Students generally enjoyed the process of goal setting and reflection. The amount of time the process took during class was minimal and the rewards were many. I felt like my relationships with individual students was stronger because I was reading and discussing their goals, for class and life, with them. Many students benefited greatly with time management and organization, from the goal setting and reflecting sessions.

The rewards of goal setting and reflection sessions on my students is enough to push me to continue the implemented techniques in my future classes.