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Background

Meditation has been used by people for years to focus and reduce stress, and recently has become a more popular method to help students reduce stress and anxiety in schools. Today's students are more distracted and stressed than ever before; technology, academic pressure and social relationships can make it difficult for students to think critically and stay focused in class. When students participate in guided meditation will it increase critical thinking skills and lower stress?

Treatment

Daily teacher-led guided meditation utilizing a script was delivered to students at the beginning of class for three weeks. The Modified Child Acceptance & Mindfulness Measure (CAMM) and Perceived Stress Scale (PSS) surveys were given to students at regular intervals throughout the treatment period. Students were randomly selected for one-on-one interviews to discuss answers to surveys and gain better understanding of student stressors. Formative and summative assessment scores were used to compare pre- and post treatment student achievement.

Sample

Biology	9 th grade students	45% male
60 students	2 classes	55% female

Research Questions

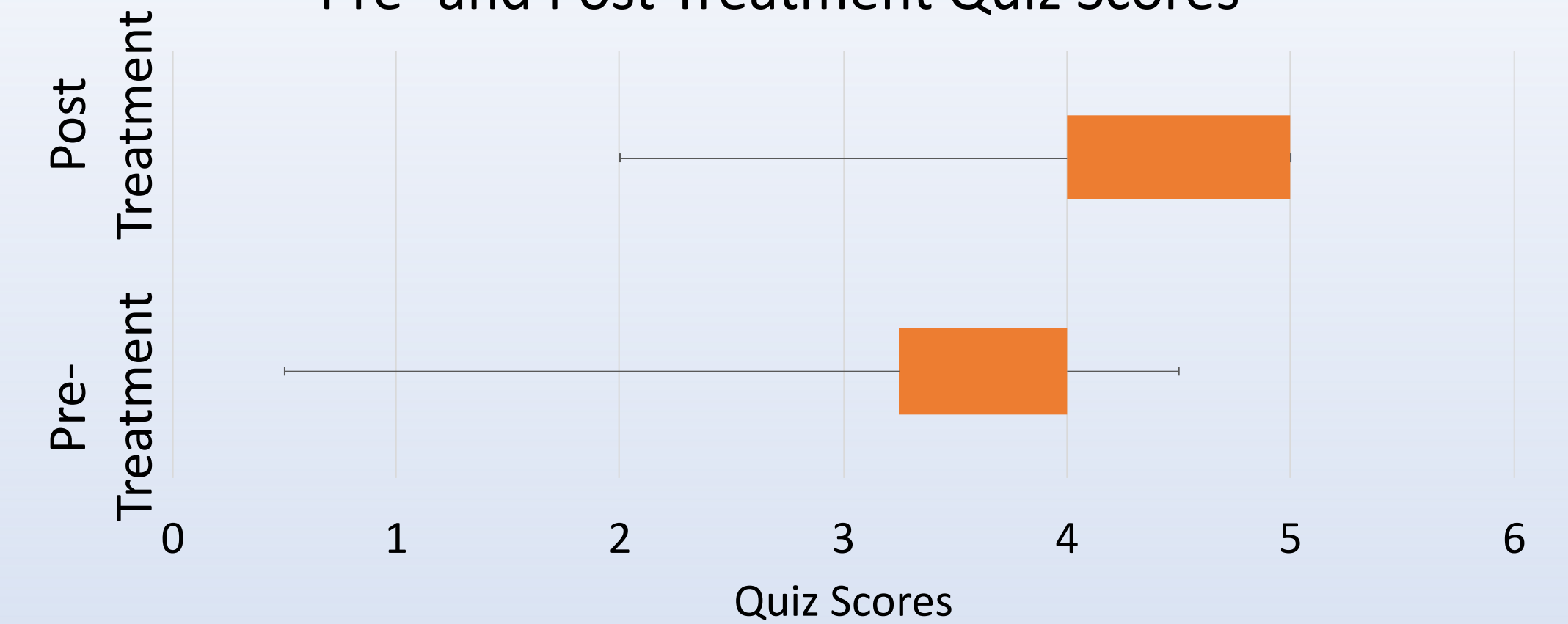
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| Primary Question | What effect does teacher-guided meditation have on student engagement and performance in the high school science classroom? |
| Focus Questions | <ol style="list-style-type: none"> 1. What effect does a regular practice of guided meditation have on short-term and long-term student achievement? 2. What impact does guided meditation have on student self-regulation and interest in science? 3. What effect does teacher-guided meditation have on decreasing stress experienced by students? 4. What effect does the facilitation of guided meditation have on the teacher? |

Terms Defined

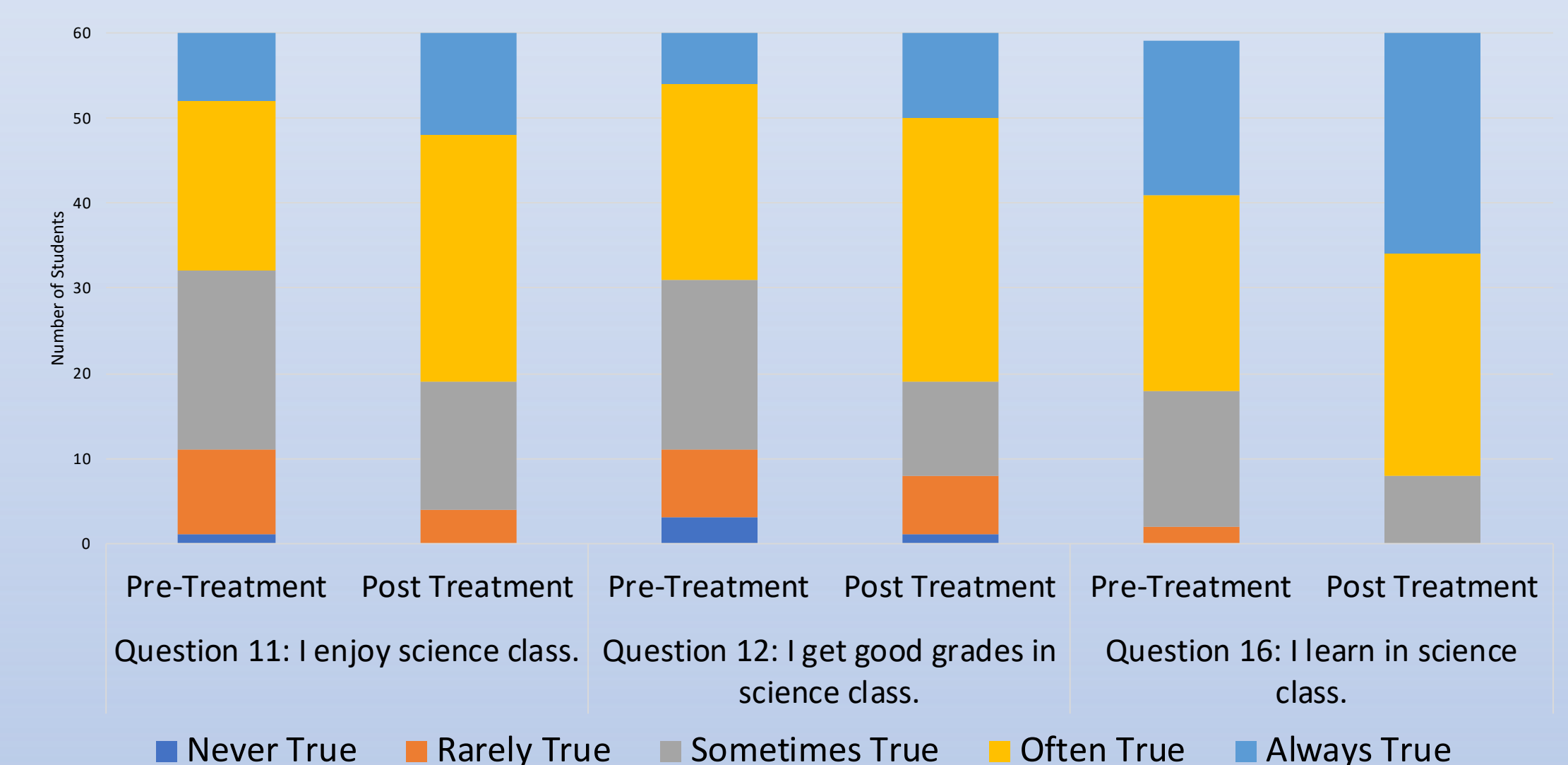
Guided Meditation: teacher-led intentional self-regulation of attention

Mindfulness: maintaining a nonjudgmental state of heightened or complete awareness of one's thoughts, emotions, or experiences on a moment-to-moment basis

Pre- and Post Treatment Quiz Scores



Pre- and Post Treatment CAMM Questions



Student Quotes

“Not only was meditation good for us, but it helped me learn”
 “I never did meditation before, but it was fun and relaxing”
 “It was a time that I could forget about what was stressing me out and focus on one class”

Conclusions

A consistent practice of guided meditation showed an increase in student academic achievement on short formative assessments. There was a slight increase in student ability to control their attention and interest in science after treatment was implemented. Students self-reported an increase in enjoyment and learning of science. Confidential information collected from probing questions allowed for teacher to provide more social-emotional support to students. The science classroom is seen a space for learning but now also a space students feel relaxed in.

Focus Question	Data Collection Method	Reasoning
1	Exit tickets quizzes (Formative Assessments)	Daily quizzes were used to gauge student short-term comprehension and understanding of lesson
	Unit Tests (Summative Assessments)	Tests were used to gauge student long term comprehension and understanding of unit
2	One-on-one Interviews	Open-ended probing questions were used to encourage students to share how they self-regulate and stay interested in science.
	Modified Child Acceptance & Mindfulness Measure (CAMM)	A modified version of the CAMM was used to measure the impact that teacher-guided meditation has on student self-regulation of thoughts and emotions.
3	Perceived Stress Scale (PSS)	The PSS was used to calculate students overall perceived stress on a scale of 0 to 40 based upon the adding up of all question scores.
4	Heart Rate Monitoring	Heart rate can indicate current stress levels. A wrist strap heart monitoring watch was worn and recorded heart rate while facilitating treatment sessions.
	Perceived Stress Scale (PSS)	The PSS was used to track the teacher's stress in their individual life.