

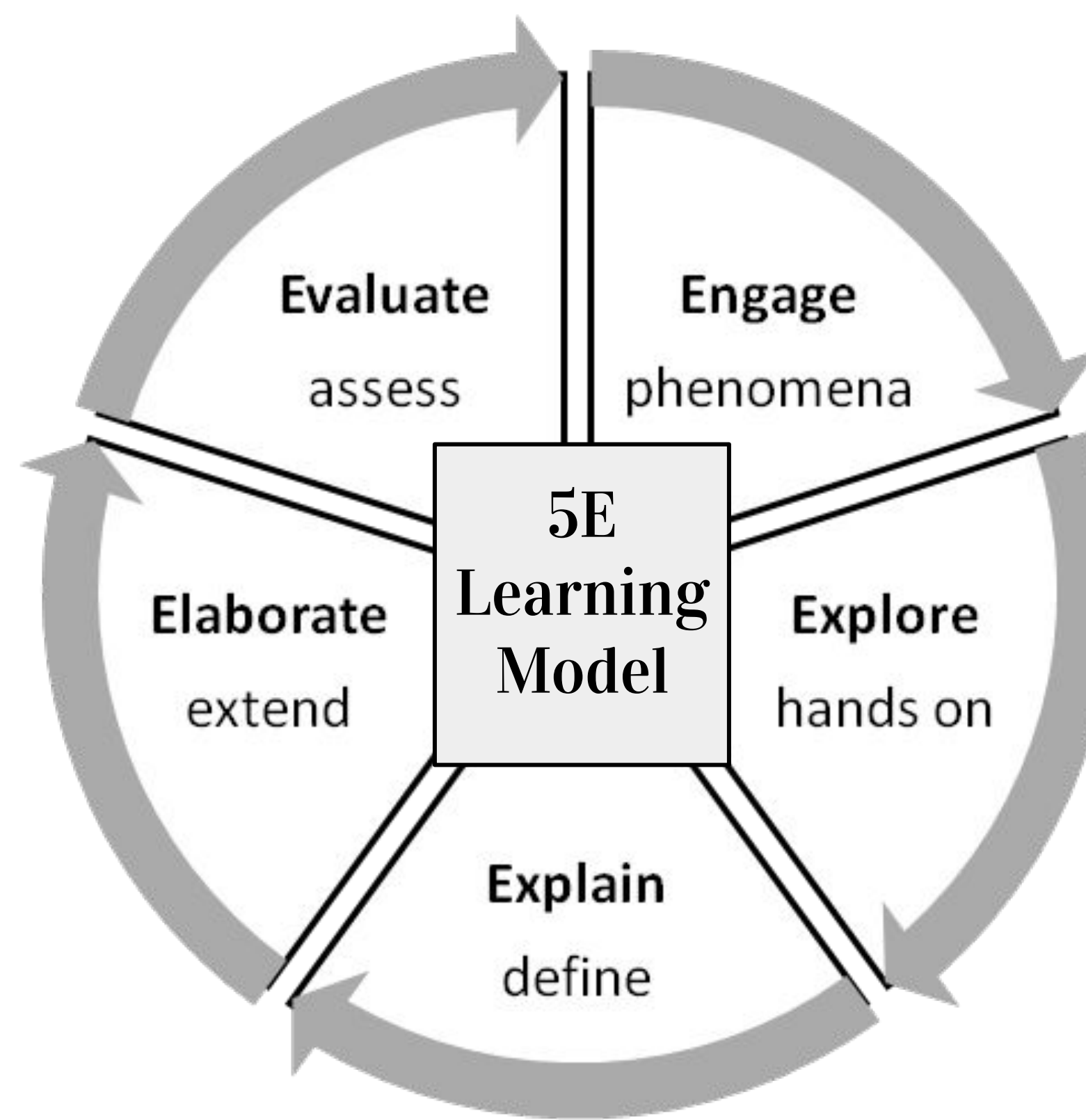
Research Questions

What are the effects of the 5E learning model on academic achievement and attitude?

Does it influence academic achievement?

How does it impact student attitudes?

What was the impact on the teacher and students?



Data Collection

Source	1	2	3
Academic Achievement	Pre/Post Unit Assessments	Test Grades	Observations
Attitude and Engagement	Pre/Post Unit Surveys	Interviews	Observations
Impactfulness	Pre/Post Unit Surveys	Interviews	Observations



THE EFFECTS OF THE 5E LEARNING MODEL IN THE MIDDLE SCHOOL CLASSROOM

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Providence Day School: Charlotte, North Carolina



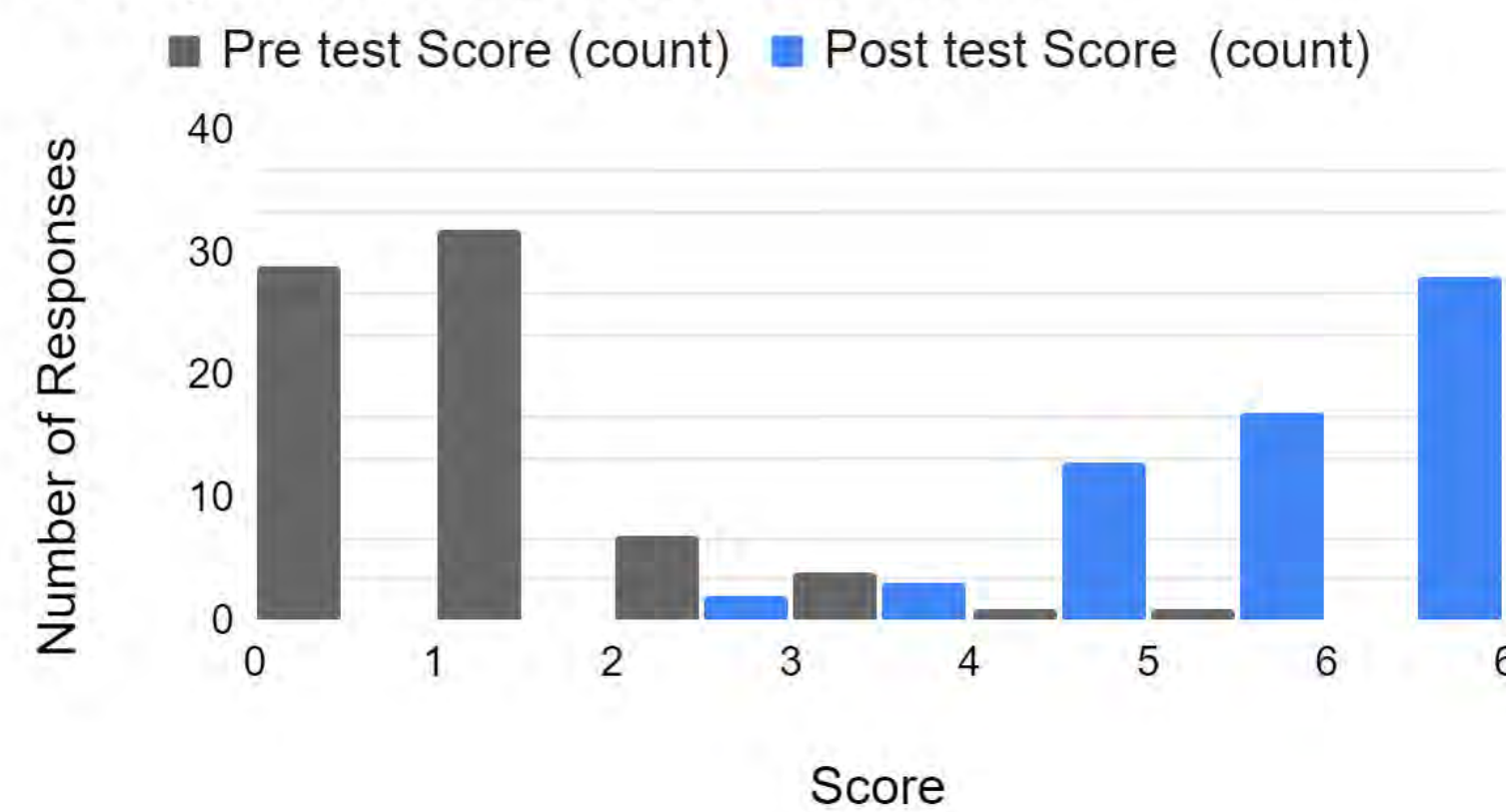
Middle School students are having a harder time staying engaged in class. They are bombarded with social media, long school days, extracurricular activities, and home life.

Inquiry-based instruction such as the BSCS 5E Learning Model (top middle) may positively influence attitude, engagement and motivation in the science classroom.

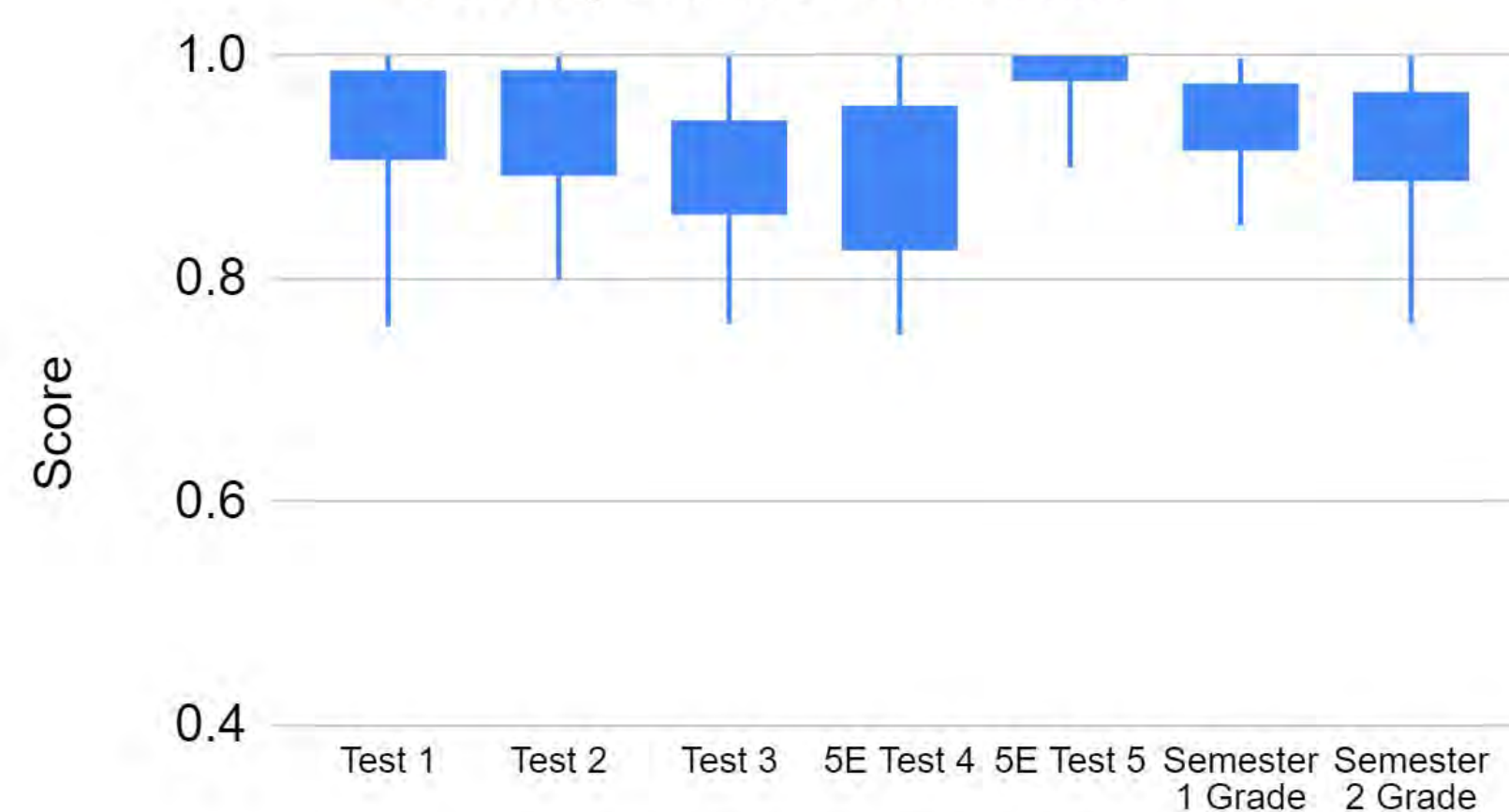
Two units of 5E lessons were taught to four 7th grade classes. The sources for data collection are found in the top right corner of the poster.

Improved academic achievement was not conclusive in this study. The students did learn new content as seen from pre and posttest results. Testing averages and ranges were inconsistent across classes.

Earthquake 5E Pre and Post test Results



Zavesky Period 7 Achievement



Student Attitude

Interest in Science
Pre and post Likert survey data showed an increasing trend

Unit Engagement
I observed less distractions and tired students in class

Grades were consistently the highest Likert score and motivator for students throughout all surveys

Conclusions

Interest
Interest in the subject matter influenced student attitude and engagement

Grades
At a high performing private school, grades are a large driver for motivation, more than learning and understanding

Unit Motivation
Students enjoyed the 5E units and variation of activities

Unit Interest
Earth science is interesting, higher in 5E units

Timing
Time of class can affect motivation and focus despite the quality of the class activities

Value

Inquiry
Inquiry-based learning led to improved class engagement

Organization
Hard to adapt at first, but helped me organize lessons better

Marcie Reuer
Terrill Paterson
John Graves
Holly Thompson
MSSE

Achievement
Trends seen, but not conclusive, further testing and comparison is needed

Flexibility
COVID protocols and absences as well as life changes

Thank you!

Ray Zavesky
Baby Z
Doug Burgess
PDS

Attitude
From the students and teacher were valuable for engagement

Learning
My confidence as a science educator has increased substantially

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