

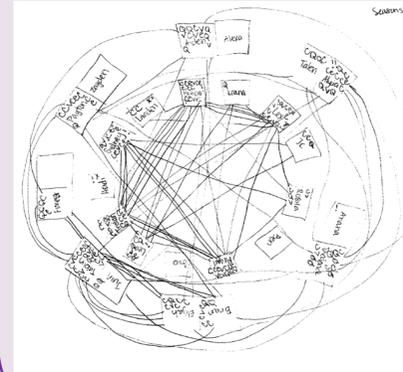
## Background

- 37% of 6th grade English Language Learner (ELL) students met standard on their 2018 state science test whereas 75% of non-ELL students met standard.
- Students were not confident in their content knowledge and required my feedback to recognize understanding.
- One of the best ways to support academic language development for all students is to provide opportunities for student dialogue.
- Previous extension opportunities did not provide opportunity for deeper exploration of ideas.

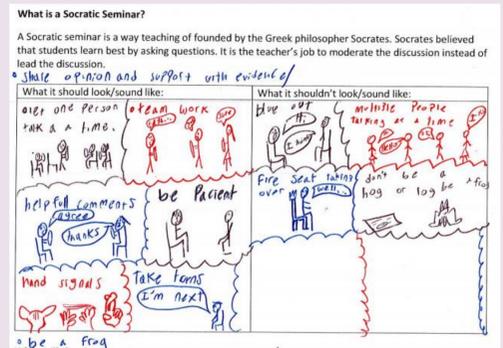
Research Questions	Data Collection Instruments		
<b>Primary Question:</b> What are the effects of Socratic Seminars on student's depth of understanding of science content?	Content Quiz	Interview Questions	Discussion Rubric
<b>Research SQ. 1:</b> How does preparation for and participation in Socratic Seminars impact student confidence with science content?	Unit Reflection Survey	Weekly Reflections	Interview Questions
<b>Research SQ. 2:</b> How does preparation for and participation in Socratic Seminars effect the achievement gap between ELL students and non-ELL students?	Content Quiz	Interview Questions	Discussion Rubric

## Treatment

- Data collection began in October 2018 and ended in May 2019.
- 51 sixth graders were exposed to six alternating treated and un-treated units (all units included instruction utilizing a 5-E instructional model: Engage, Explore, Explain, Extend, Evaluate).
- Content included the human body systems and Earth in space.
- Treated units ended with a Socratic Seminar as an extension.



Teacher discussion tracker for a Socratic Seminar.



Class norms for all Socratic Seminars; norms were set before each.

## Data & Results

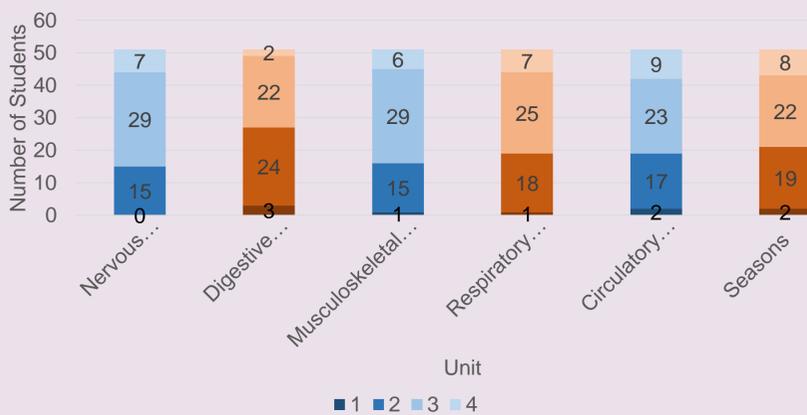


Figure 1. Comparison of mean Content Quiz scores, (N=51). Blue indicates untreated units and orange indicates treated units. Results indicated that Socratic Seminars have no significant impact on student performance on level three and four depth of knowledge assessment questions.

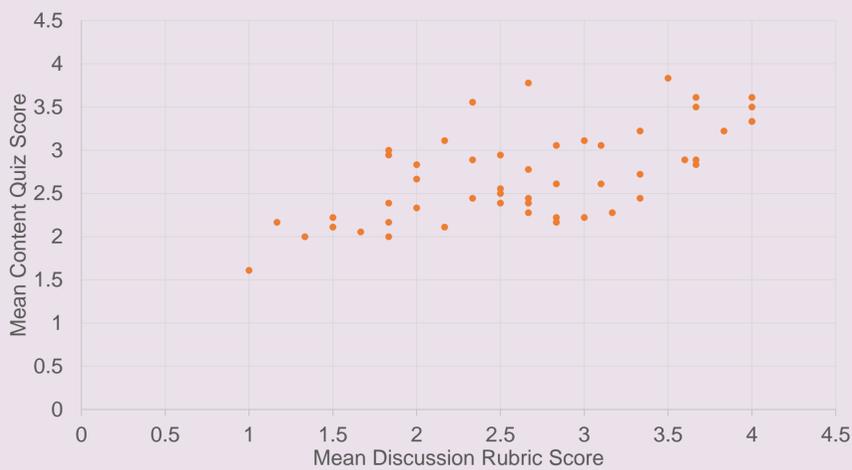


Figure 2. Correlation of mean Content Quiz scores and mean Discussion Rubric scores, (N=51). Results for treated units indicated a positive correlation and significant dependent relationship between Socratic Seminar scores and content knowledge assessment scores.

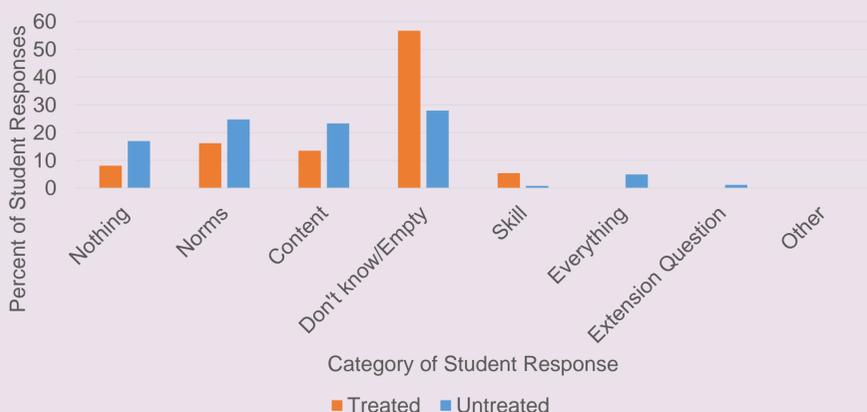


Figure 3. Categorized Weekly Reflection responses to the question, "What do you still feel confused about from this week's science work?" (N=50). Results of Weekly Reflections indicated that Socratic Seminars increased student confidence.

## Conclusions

Results of this study show that Socratic Seminars:

- Promote expanded thinking and deep exploration of ideas.
- Serve as the vessel through which students built reading, speaking, and critical thinking skills.
- Are not more valuable than other extension formats in terms of developing content knowledge.
- Are an equally valid assessment tool as a written quiz.
- Did not help close the achievement gap on written quizzes for ELL and non-ELL students, but did increase content knowledge for ELL students.

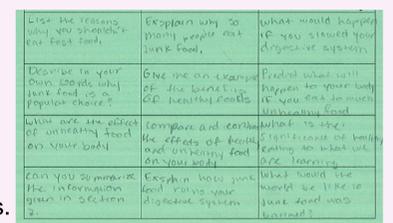
Additionally, valid confidence measures show that Socratic Seminars increase student confidence with speaking and content.

## Value

"Your students have having conversations in a way that most adults can't talk in our country right now."- Joel Vanderyacht, Principal, Nooksack Valley Middle School

Not only are Socratic Seminars engaging and empowering for students but through preparation for and participation in Socratic Seminars I saw students:

- improve their ability to synthesize information
- improve speaking skills
- develop openness to new ideas
- question peers
- respectfully disagree with peers
- develop a capacity to think for oneself
- support ideas with evidence
- find the main idea of a text
- listen to others and build on other's ideas.



Student questions prepared for a Socratic Seminar.

Student Quotes:

From Socratic Seminars I learned "how to talk in big groups and how to accept other people's ideas and thoughts that were not mine and I didn't share the same opinion as them but I could still accept it."



Students engaged in a Socratic Seminar.

"What I learned from Socratic Seminars was that before you make a choice you should explore the outcomes and explore why. You can't just make a choice without evidence."

I would recommend Socratic Seminars "because it helps students learn a lot about a certain subject, and helps some students feel more confident about sharing their own ideas."

I would recommend Socratic Seminars "because it gives students a voice and may change other people's opinions and it is a lot of fun."

## References

Educator Access Plus. (2018). Retrieved from <https://www2.nwrdc.wa-k12.net/scripts/cgiip.exe/WService=wnooksks71/sephom01.w>.