The 5E Model of Learning in a Chemistry Classroom

MONTANA STATE UNIVERSITY
Master of Science in Science Education

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KITTATINNY

Background

- I conducted my Capstone project at Kittatinny Regional High School (KRHS) in Newton, NJ. KRHS is a 7-12 public school serving five districts: Fredon, Hampton, Sandyston, Stillwater, and Walpack.

- The 5E Model of Learning is a great tool that can help integrate phenomena and storylines aligned to the NGSS, adopted by New Jersey in 2015.

- I used the 5E model with one of my chemistry classes for one unit while using traditional methods with the other one, and then switched for the next unit.

Focus Questions

1. How does using the 5E model of learning impact student learning and retention in chemistry?
2. How does the implementation of the 5E model affect students' attitudes towards science and inquiry?

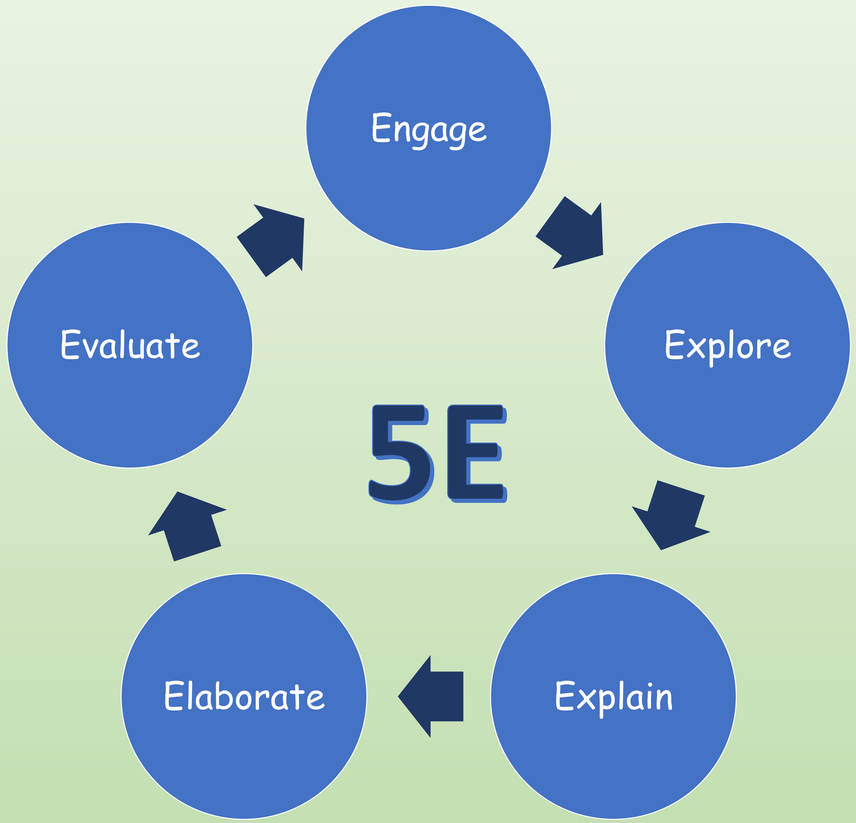

Figure 1. Cyclical nature of the 5E model – Adapted from Chitman-Booker, L. and Kopp, K., 2013.

Student Performance

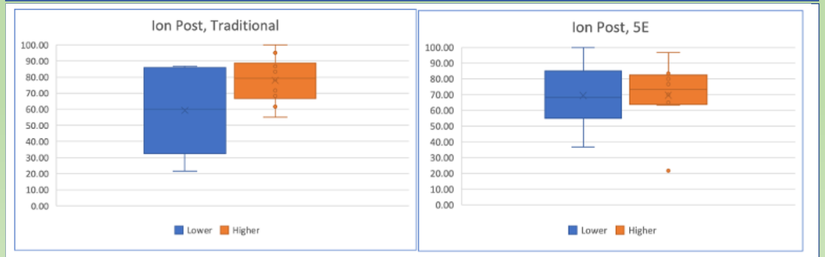

Figure 2. Comparison of Ionic post-test results between subgroups and between treatment and non-treatment groups, (*N*=34).

Student Attitude

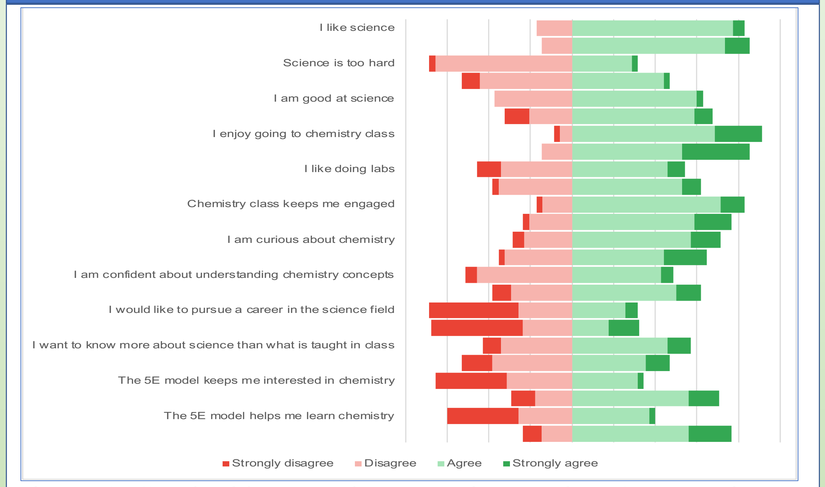

Figure 3. Stacked bar graph comparing students' perceptions towards science, pre- (N =34) and post-treatment (n=33)

Value & Future Work

- The 5E model engages students more than traditional methods.
- Lower-level students benefitted greatly from the 5E model of learning.
- I look forward into incorporating the 5E model throughout the school year.

References

Chitman-Booker, L. and Kopp, K., 2013. The 5Es of inquiry-based science. Huntington Beach, CA: Shell Education Publishing, Inc.