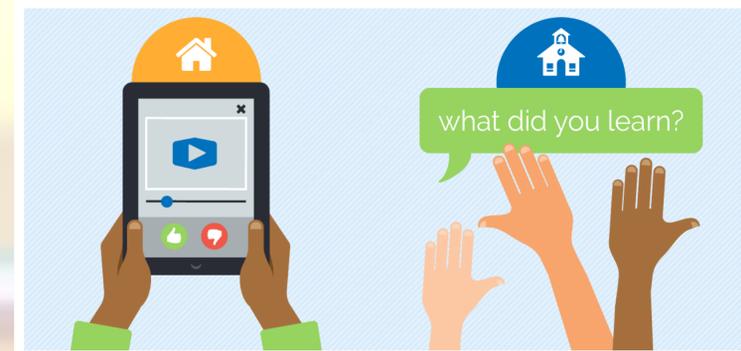




Flipping the Chemistry Classroom



Background

At Rancocas Valley Regional High School in Mount Holly, NJ I noticed a lack of concentration and engagement in my classroom. Due to the digital age current students are experiencing, I decided to try a new approach by flipping my classroom. The flipped classroom is a method of teaching that allows the teacher to become resource instead of a lecturer. Students watch informational videos outside of class and participate in engaging activities while in class.

Treatment

The treatment group consisted of 24 students, 11 females and 13 males. The general chemistry classroom was flipped during two units, one about matter and the other about the atom. Students were given homework to watch multiple instructional videos and then to come prepared to class with questions. The material was reviewed and the students participated in engaging activities such as problem solving, laboratory experiments, and other group activities.

Research Questions

Primary Question:

What is the effect on student achievement in a flipped classroom compared to a traditional method of teaching?

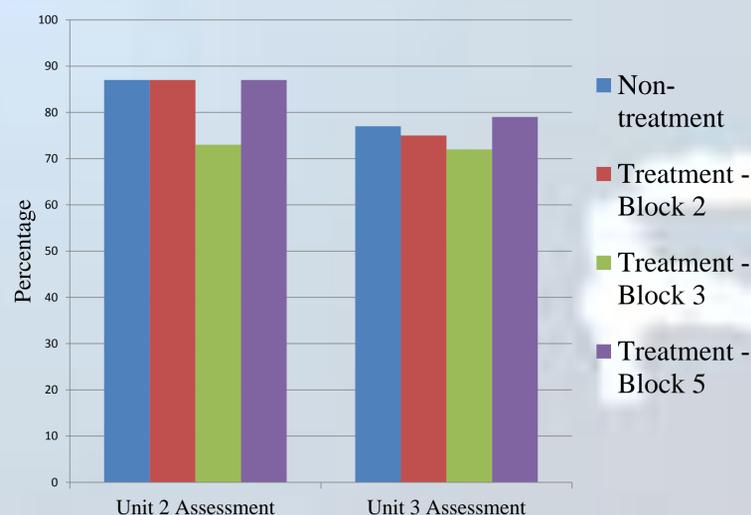
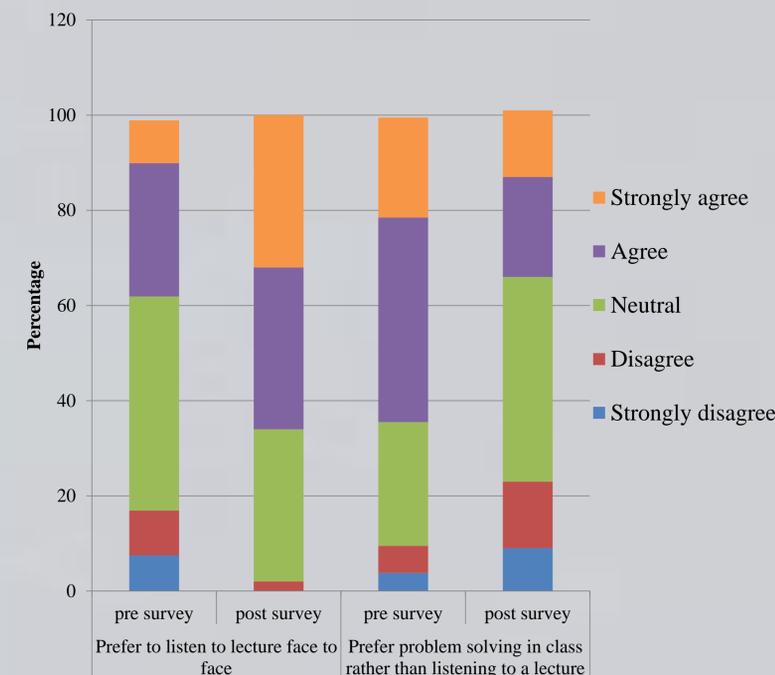
Sub-question 1:

Does student engagement increase in a flipped classroom setting?

Sub-question 2:

Do students prefer a student-centered classroom atmosphere?

Research Questions	Data Source 1	Data Source 2	Data Source 3	Data Source 4
Focus Question	Summative unit assessments	Student Surveys	Student Interviews	Teacher Observations
Sub-Question 1	Students Surveys	Student Interviews	Teacher Observations	
Sub-Question 2	Student Surveys	Student Interviews	Teacher Observations	



Results

Summative assessment results between treatment and non-treatment groups were not statistically significant. According to teacher observations, students were more engaged in classroom activities during the treatment period. Post treatment survey responses showed that only nine percent of students preferred the flipped classroom technique. However, one student commented, "I would actually love to do this method again."