Increasing Student Engagement in High School Computer Science

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Problem

Computer Science (CS) is a hands on topic that requires active learning. CS teaching should provide engaging lectures and practice for students.

Solution

A flipped classroom using ASSISTments and in-class projects will increase student engagement in CS classes.

Classroom Styles

- Flipped
  - At Home Lecture
  - In Class Projects
  - Technology Dependent
- Traditional
  - In Class Lecture
  - Homework
  - Technology Independent

Data Collection

1. Surveys
2. In-Class Performance
3. ASSISTments Data

How Well Did the Videos and Questions on ASSISTments Teach the Material?

![Bar Chart]

- 1 (Poor)
- 2
- 3 (Excellent)

References


ASSISTments Excerpt

- Percentage of Students
  - 1 (Poor)
  - 2
  - 3 (Excellent)
  - 4
  - 5 (Excellent)

Did the Students Prefer a Flipped Classroom?

- Yes (29.5%)
- No (70.5%)

Conclusion

- Students receptive to concept, but materials need development
- Traditional classroom preferred

References

- Al-Zahran, A. M. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on higher education students’ creative thinking.