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# Increasing Student Engagement in High School Computer Science

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# 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

## ASSISTments Excerpt



Which placement of brackets in an array declaration is preferred?

Select one:

- Student student = new int[3];
- String[] words = new String[5];
- int numbers[] = new int[10];
- []boolean bools = new boolean[2];

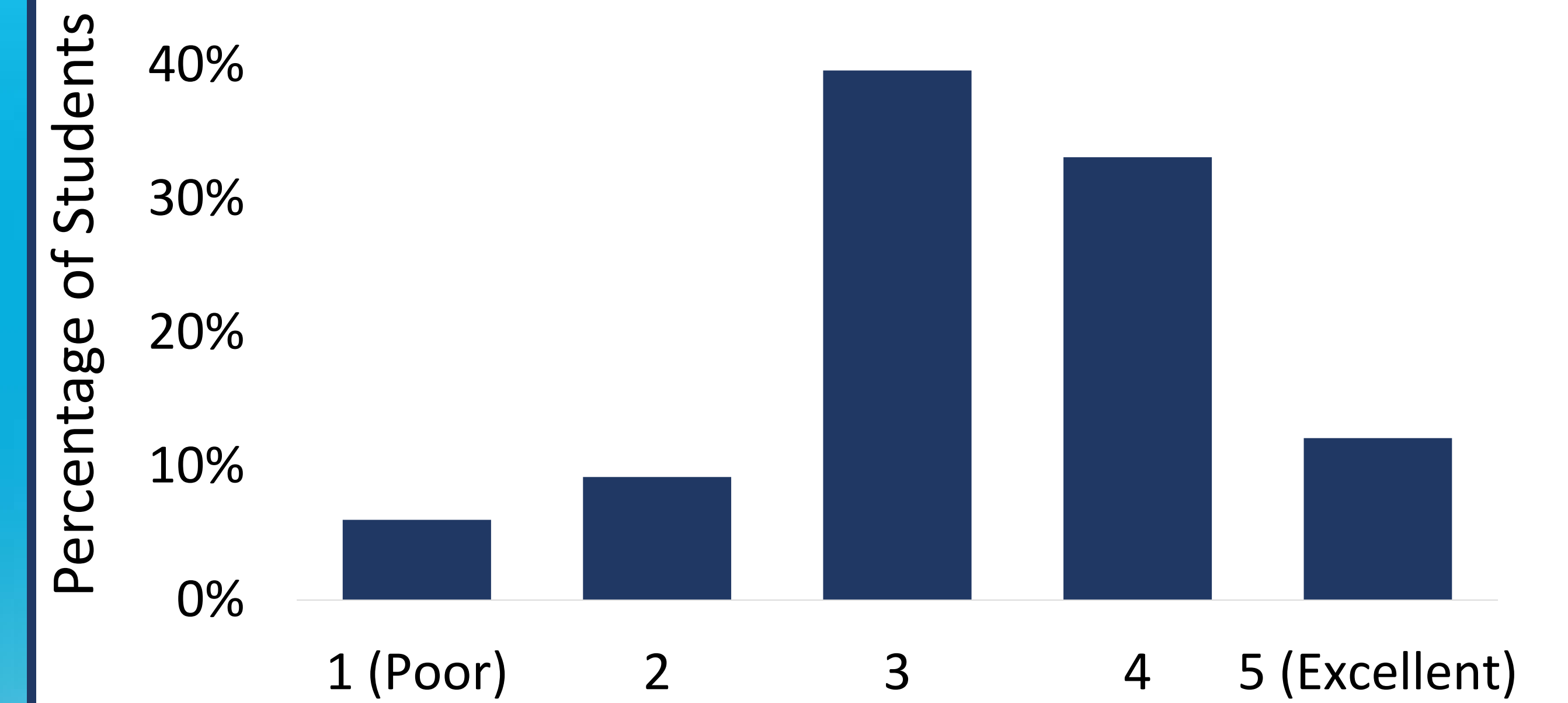
Correct!

Submit Answer

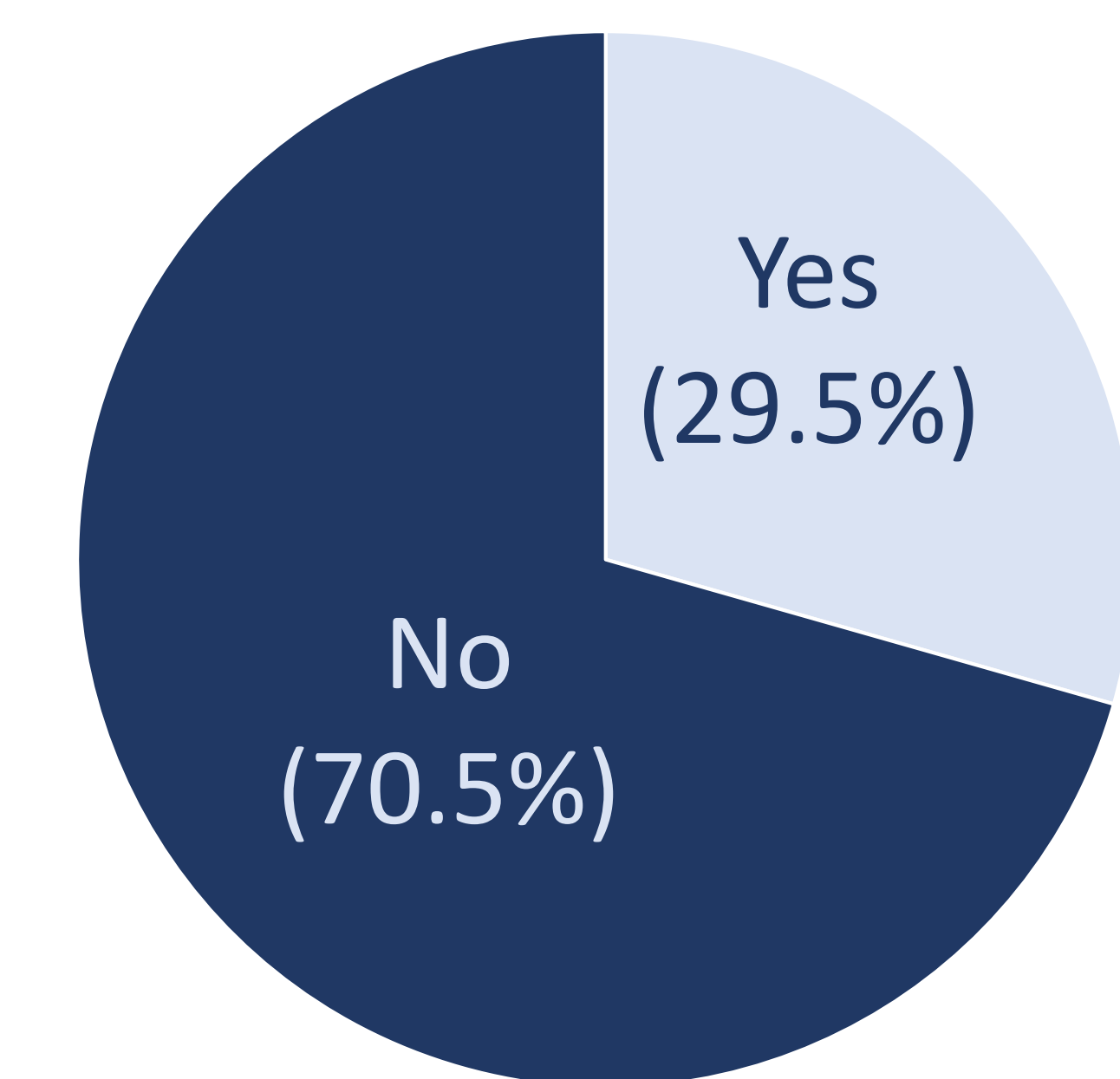
Next Problem

100%

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



## Did the Students Prefer a Flipped Classroom?



## Conclusion

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

## References

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