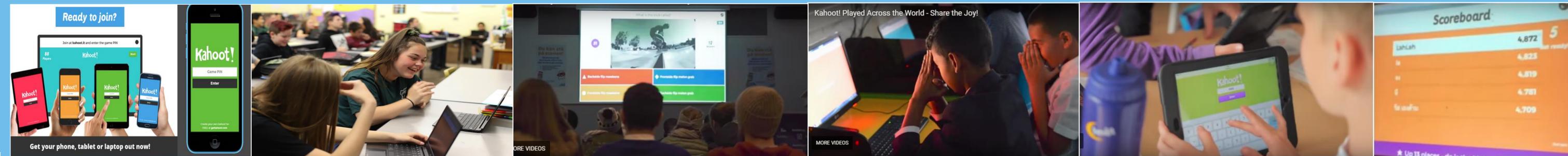# To Kahoot! or not to Kahoot!?
Kahoot an effective formative assessment or a distraction?

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Abstract

More than 50% of all US k-12 teachers use Kahoot! (Kahoot!.com). This study measured the impact of Kahoot! as a formative assessment by comparing 120 middle-school students' engagement and performance with three different modes of Kahoot! — team, competitive, and no-score — to traditional classroom discussion.

Research Questions

1. What is the impact using Kahoot! as a formative assessment?

2. What is the impact of Kahoot! on students' engagement and motivation?

3. What is the impact of Kahoot! on performance and perception of learning?

4. What is the impact of competition on students of different genders and academic abilities?

Interview Quotes

"I like Kahoot! because...
- it's a game that helps you learn."
- it helps keep me focused."
- it helps me figure out what I don't know."

"I like rankings because it's like bragging without bragging."
"I prefer no ranking because it makes me feel not as smart as most people."

Methodology

Four formative assessments were compared: paper quizzes, No-Score Kahoot!, Competitive Kahoot!, and Team Kahoot!. Four classes of middle-school science students rotated to a different formative assessment after each unit until every class had experienced each of the formative assessments twice.

BEFORE TREATMENT
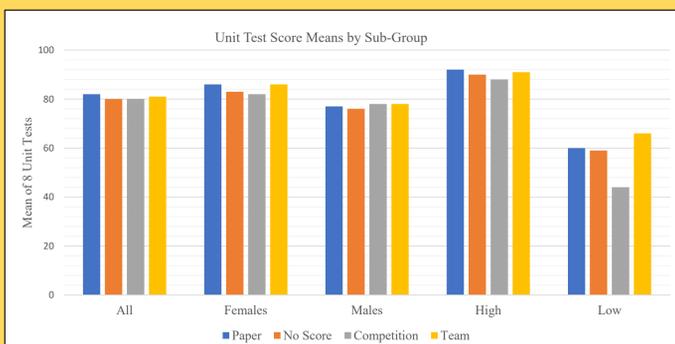Likert pre-survey, Student pre-interviews, Two practice Kahoot!s

DURING TREATMENT
Unit pre-tests | Likert survey with open-ended questions, Student interviews, Classroom observation | Unit post-tests

AFTER TREATMENT
Likert post-survey, Student post-interviews, Comprehensive quiz

Student Performance
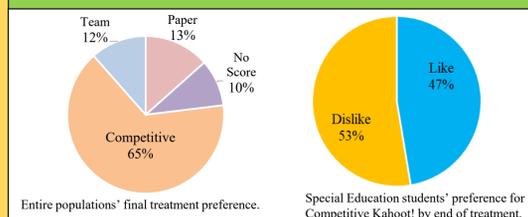

Unit Test Score Means by Sub-Group

Students' unit test scores were not significantly affected by treatments.

Low-performing students' test scores increased with Team Kahoot! and decreased after Competitive Kahoot! treatment. These results matched their preference for each type of Kahoot!.

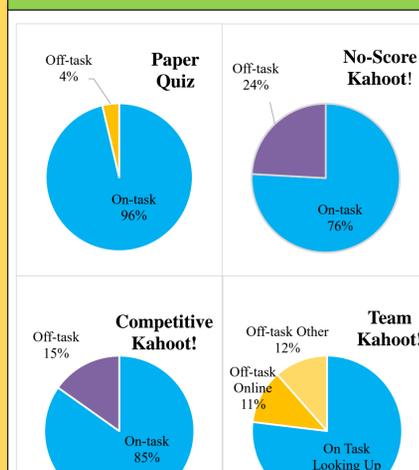## Student Engagement and Preference

Student Treatment Preference

Team 12%, Paper 13%, No Score 10%, Competitive 65%

Like 47%, Dislike 53%

Entire populations' final treatment preference.

Special Education students' preference for Competitive Kahoot! by end of treatment.

By the end of the research project all students preferred Competitive Kahoot! The special education students were split—the socially astute special education students did not like Competitive Kahoot!.
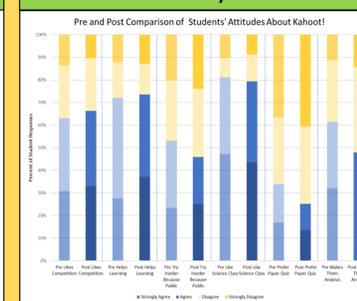
High-performing students never preferred Team Kahoot!, but mid-treatment the lower-achieving students preferred to work as a team, and disliked Competitive Kahoot!

Prefer Competitive Kahoot!

Prefer Team Kahoot!

Observation Charts

Paper Quiz — Off-task 4%, On-task 96%

No-Score Kahoot! — Off-task 24%, On-task 76%

Competitive Kahoot! — Off-task 15%, On-task 85%

Team Kahoot! — Off-task Other 12%, Off-task Online 11%, On Task Looking Up

Likert Survey Results

Pre and Post Comparison of Students' Attitudes About Kahoot!

Students' preference for Competitive Kahoot! increased over time as their anxiety over timing and being ranked decreased.

Their appreciation for Kahoot as a

Conclusion and Value

This study found a statistically significant difference between academic groups' preference for Competitive Kahoot!. High achieving students preferred Competitive Kahoot! while struggling students preferred Team Kahoot!, and performed worse after the Competitive Kahoot! treatment. Also, online cruising increased by 10% after 14 weeks of playing Kahoot!

When using Kahoot! as a formative assessment be aware that quiet and shy students of all academic abilities will not be comfortable with public scoring and ranking. Low-performing students are more comfortable with Team Kahoot! which gives them the opportunity to be competitive, but seem to become acclimated to Competitive Kahoot! over time. Socially astute special education students are embarrassed by their scores and never prefer Competitive Kahoot!.

Acknowledgments