GPA

Evidence in Action

A K20 Center Research Brief

Boosting Rural Student Engagement with Kahoot!: A Game-Based Learning Intervention

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Introduction

This intervention brief explores the study titled "Investigation of the effects of an online instant response system on students in a middle school of a rural area" by Lee et al. (2019). The study addresses the challenge of low student engagement and motivation in rural schools, despite access to technological tools. The authors highlight that traditional teaching methods dominate even in tech-equipped classrooms, leading to passive learning and declining motivation. The study investigates whether integrating Kahoot!, a game-based instant response system, can enhance learning motivation and achievement in Earth Science classes among rural junior high students.

Methodology

Research Design:

A mixed-methods, quasi-experimental design was used. Quantitative data assessed learning motivation and achievement, while qualitative data explored learning processes.

Sample:

Participants were two ninth-grade Earth Science classes (n=39) from a rural junior high school in Taiwan. One class (n=19) was randomly assigned as the experimental group using Kahoot!, while the other (n=20) served as the control group using traditional oral questioning. Both were taught by the same teacher over six weeks.

Data Analysis:

Pre- and post-tests measured motivation and achievement. T-tests compared group differences. Qualitative data from journals and interviews were coded and triangulated to understand learning processes.

Results

The use of Kahoot! did not significantly improve test scores or overall motivation statistically. However, qualitative findings revealed that students in the experimental group reported increased engagement, focus, and reduced anxiety. Many students expressed that Kahoot! made learning more enjoyable and encouraged them to review material more thoroughly. The tool also helped students identify misconceptions and promoted classroom interaction. Notably, motivation gains were not sustained over time, suggesting a novelty effect.

Application into Practice

To replicate this intervention:

1. **Technology Setup:** Ensure classrooms have stable internet, projectors, and student devices.
2. **Teacher Preparation:** Minimal training is needed to use Kahoot!, but teachers should vary instructional strategies to avoid novelty fatigue.
3. **Implementation:** Use Kahoot! at the beginning and end of lessons to assess prior knowledge and reinforce learning.
4. **Feedback Loop:** Use Kahoot! data to provide immediate feedback and tailor instruction.
5. **Sustainability:** Combine Kahoot! with other interactive methods to maintain engagement over time.

This approach is especially beneficial in rural or under-resourced contexts where student motivation is a concern.

Work Cited

Lee, C.-C., Hao, Y., Lee, K. S., Sim, S. C., & Huang, C.-C. (2019). Investigation of the effects of an online instant response system on students in a middle school of a rural area. *Computers in Human Behavior, 95*, 217–223. https://doi.org/10.1016/j.chb.2018.11.034