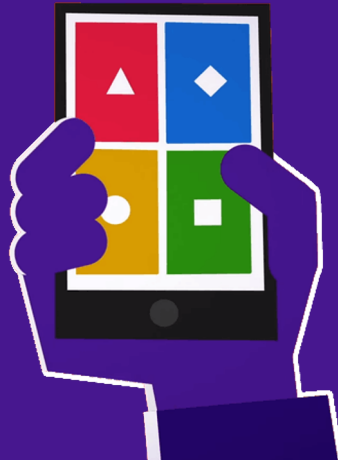


The effect of points and audio on concentration, engagement, enjoyment, learning, motivation, and classroom dynamics using Kahoot!

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Kahoot!

- Web-based quiz
- Developed in line with Thomas Malone's theory on what makes educational games fun:
 - **Challenge**
 - Answer questions, compete against others
 - **Fantasy**
 - The classroom becomes a game show
 - **Curiosity**
 - Inspiring graphics and audio, solving cognitive puzzles



Context and related work

- Research has shown games can influence behavior and enable learning
- Little focus on individual game elements
- No isolation of individual elements

Setup

- 2x2 factorial design: audio (music) and points

	Audio	No audio
Points	Points + Audio (“Full Kahoot!”)	Points + No audio
No points	No points + Audio	No points + No audio

- Measure (questionnaire):
 - Concentration
 - Engagement
 - Enjoyment
 - Learning
 - Motivation

Results - 1/2

- Concentration: **Decreased** without audio/points
- Engagement (raised pulse):
 - Full Kahoot & No audio: around 70%
 - Nearly halved when no points
 - **More than halved** when no audio/points
- Enjoyment: **significant decrease** without audio/points
- Learning: no significant differences

Results - 2/2

- Motivation/effort:
 - No audio: nearly **everyone** tried to do well
 - No audio+no points: A little over half tried to do well
- Classroom dynamics:
 - Full Kahoot!: **Lots** of energy
 - No points: slightly less energy
 - No audio and no audio+points: **Low** energy

Findings

- No audio+no points generally did the worst
- No audio = highest effort(!)
- Audio (music) has significant effect on the classroom dynamics
 - Points less so

