Cheung, S. Y., & Ng, K. Y. (2021, March). Application of the educational game to enhance student learning. In Frontiers in Education (Vol. 6, p. 623793). Frontiers Media SA.

Study Overview:

- The study focuses on the effectiveness of an educational game called "PaGamO" in enhancing student learning in higher education.

- It combines gamification elements with traditional learning methods and explores its impact on student motivation and academic performance.

- The study involved 56 college students majoring in physical education and recreation management.

Intrinsic Motivation:

- The study discusses the role of curiosity in enhancing intrinsic motivation. Curiosity is stimulated when there's a gap between perceived discrepancies or conflicts in one's knowledge.

- The complexity of information can influence an individual's motivation to learn. Information that is too easy or too difficult may affect motivation.

- Educational games aim to enhance students' intrinsic motivation for learning by providing challenges that are attainable yet stimulating.

Objective:

- The study's objective is to assess whether the use of the educational game "PaGamO" could enhance students' learning ability and understand students' perceptions of educational games.

Materials and Methods:

- Participants included 56 college students majoring in physical education and recreation management.

- The "PaGamO" game was introduced as a supplementary tool for learning.

- Students played the game in four sections related to the course material.

- A combination of quantitative and qualitative methods, including questionnaires and focus-group interviews, were used for data collection and analysis.

Data Collection and Analysis:

- The study used a mixed-method approach to assess the effectiveness of "PaGamO."

- Quantitative data was collected through questionnaires immediately after the final examination.

- Qualitative data was collected through focus-group interviews to gain in-depth insights into students' perceptions.

- The analysis included factors such as students' "PaGamO" scores, examination scores, motives for playing, and perceptions of the game's effectiveness.

Results and Discussion:

- The study found a significant relationship between "PaGamO" scores and multiple-choice (MC) exam scores.

- Students' motives for playing "PaGamO" were primarily intrinsic, with factors like fun, self-learning, and wanting to perform well in the final examination being prominent.

- Social interaction and competitiveness also played a role in motivating students to participate.

- Some students preferred traditional learning methods over educational games.

- The choice of devices for playing "PaGamO" varied, with mobile phones being the most popular due to their convenience.

- The study showed that even short sessions of using "PaGamO" were effective in helping students prepare for exams.

Recommendations for Further Research:

- The study suggests exploring the long-term effects of gamification on knowledge retention and application in different contexts.

- Future research could investigate the use of various question formats in educational games.

- Standardized procedures for using educational games in different subjects and with larger sample sizes are recommended.

Conclusion:

- The study concludes that the combination of gamification and traditional learning methods can enhance students' motivation and learning outcomes.

- The convenience of playing educational games on mobile devices was highlighted.

- Further research in the field of educational games is encouraged.

Funding and Ethics:

- The research was funded by the University Grants Committee of Hong Kong Baptist University.

- Ethical review and informed consent were not required for the study due to local legislation and institutional requirements.