

Pedagogical challenges and approaches to game-based learning

Hi!

Let's learn and have fun!



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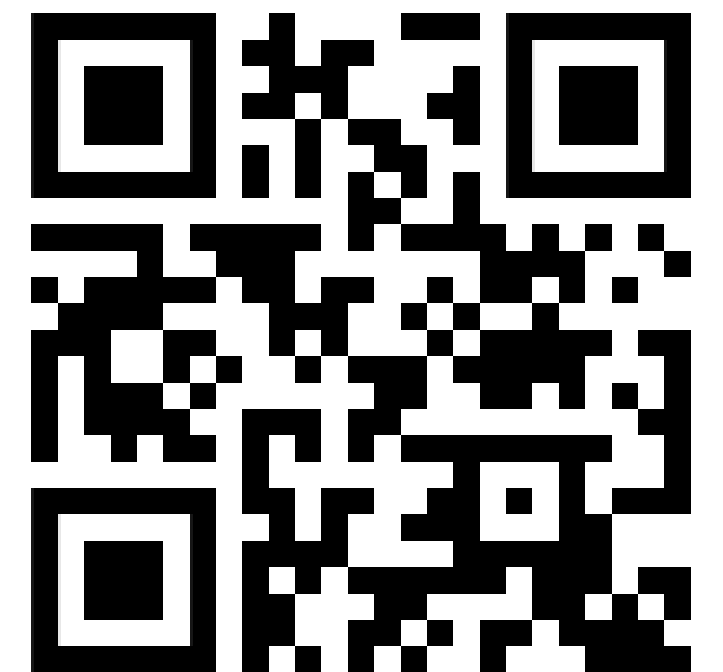
**Why do you think
it is necessary to innovate
the teaching-learning processes
with the use of
new practices and methods?**

5 minutes for reply



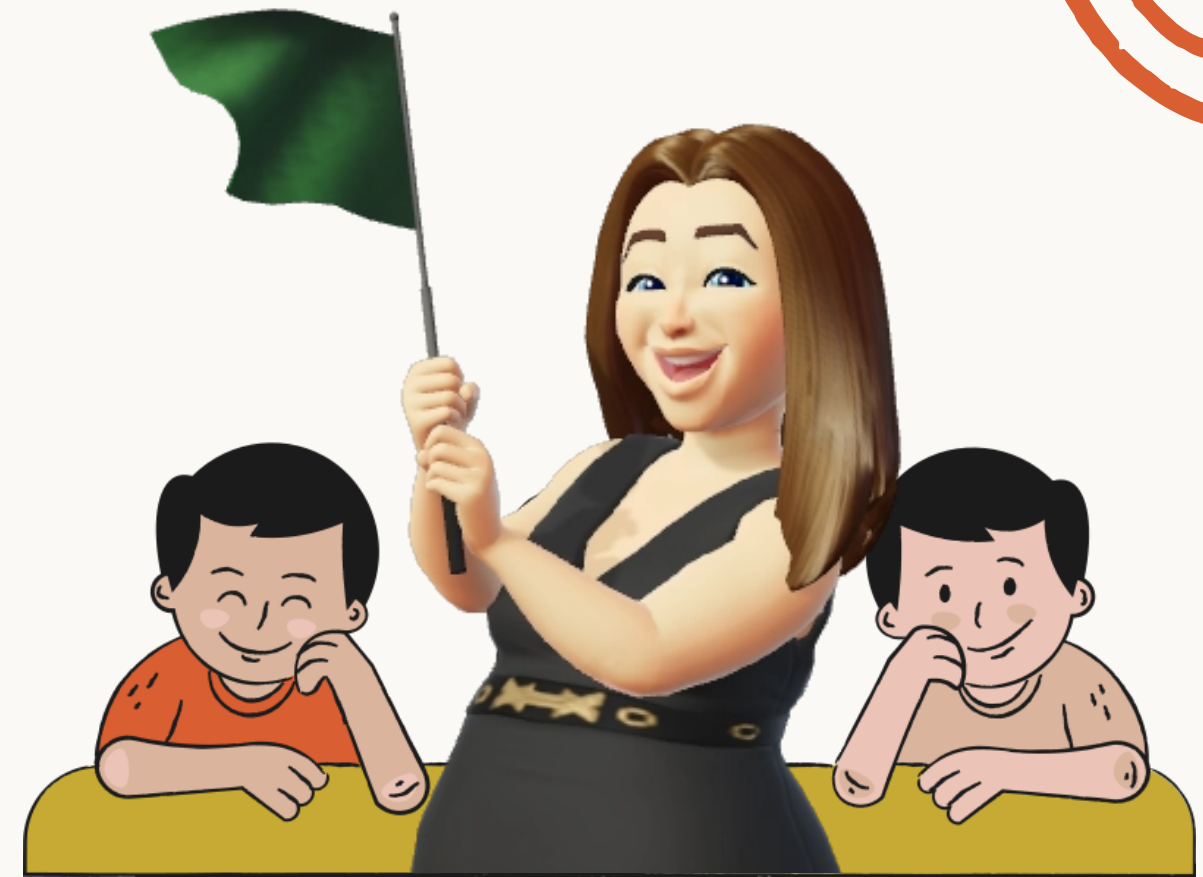
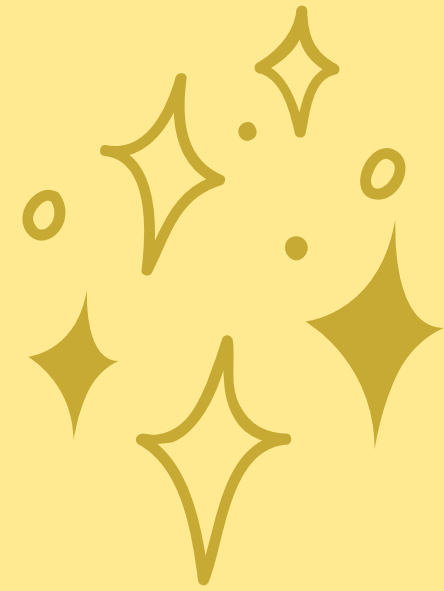
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some

definitions



game

gamification

game-based learning

serious game

GAMIFICATION

Gamification is adding game elements to a non-game scenario. You reward certain behaviors with benefits or by “unlocking” new features or services.

Adding game-like elements (badges, experience points, etc.) to a lesson



Motivation: Likely **extrinsically rewarding**. I.E. the reward is tied to grades.

Assessment is **not within** the “game.”

Game-like aspects are adjusted to fit the lesson content.

GAME-BASED LEARNING

Game-based learning (GBL) flips gamification on its head. Rather than implement game-like tropes into lessons, GBL uses actual games to teach.

Using games (such as Minecraft) to teach specific learning objectives



Motivation: Games are designed to be **intrinsically rewarding**. May also be extrinsically rewarding.

Assessment is **in-game**.

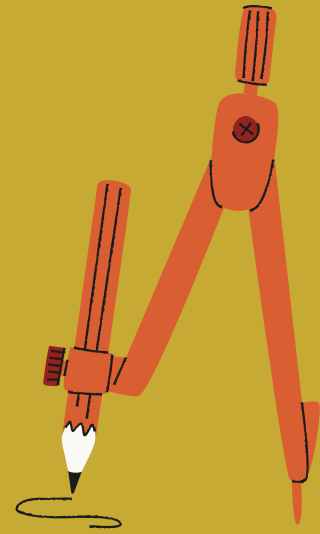
Lesson content is adjusted to fit the game.





Krath, Schürmann, von Korflesch (2021)

Theoretical foundations



self-determination theory

Flow theory

Experiential learning theory





- 1) games foster motivation
- 2) play is a natural mode of learning
- 3) games induce cognitive flow, which is productive for learning
- 4) games support learning-by-doing
- 5) games allow for performance monitoring
- 6) games offer freedom of movement
- 7) games support social learning
- 8) games allow for safe experimentation
- 9) games accommodate new generations of learners
- 10) there are many successful games for learning

The effectiveness

100





The effectiveness



the evidence of effectiveness needs
to be more extensively studied



the evidences on the use of games
in educational contexts in relation to

Learning outcomes

Affective outcomes

Yu et al., (2021); Zainuddin et al., (2020);
Mayer (2019); Faiella & Ricciardi (2015)





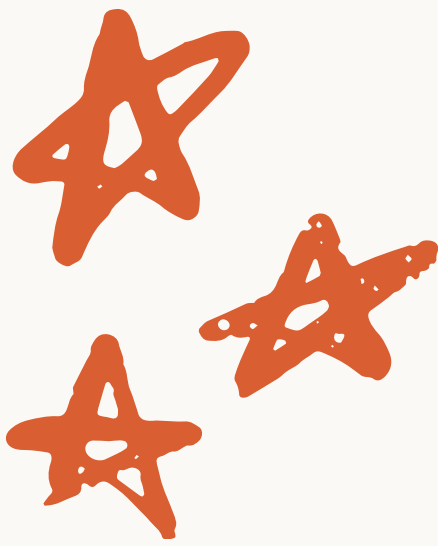
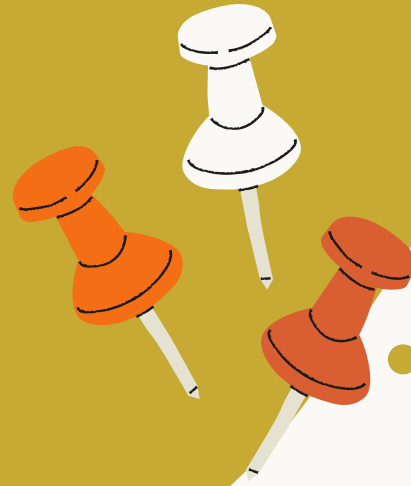
The effectiveness

Learning outcomes

- Which game features promote learning?
- when does game playing have positive consequences?
- Do people learn academic material better from computer games or from conventional media?

Affective outcomes

- Educational games could generally improve student motivations but the effect of them on motivation is contradictory
- Situational games could improve student motivation and performance
- Competitive games could lead to frustration of students
- Some students do not like to compete with their classmates





Approaches



Gamification and Meaningful gamification

Game-based learning:

Simulations

Role-playing Games

Educational Board Games and Card Games

Word Games

Puzzle Games

Video Games



COMPUTERIZED SIMULATIONS AND PEACEBUILDING THE ISRAELI-PALESTINIAN CONFLICT (A 2018 CASE-STUDY)

GLOBAL CONFLICTS

- **Players** (undergraduate students)
 - Israeli
 - Palestinian
 - American
 - Turkish
- **Role-play:** a Western reporter
- **Results:**
 - Improved knowledge acquisition about the conflict
 - **Attitude regarding the conflict:**
 - Third parties changed it
 - Direct parties did not

PEACEMAKER

- **Players** (undergraduate students)
 - Israeli
 - Palestinian
 - American
 - Turkish
- **Role-play:** the Israeli Prime Minister or the Palestinian President
- **Results:**
 - Improved knowledge acquisition about the conflict
 - **Attitude regarding the conflict:**
 - no change

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Thank You!

