Gamification in Higher Education: Teachers' Drivers and Barriers

Antonio Sánchez-Mena
antonio.sanchezmena@universidadeuropea.es

José Martí-Parreño
jose.marti@universidadeuropea.es

Universidad Europea
LAUREATE INTERNATIONAL UNIVERSITIES
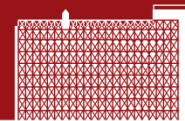
Universidade Europeia
LAUREATE INTERNATIONAL UNIVERSITIES

MADRID   VALENCIA   CANARIAS   LISBOA   PORTO

Universidad Europea de Valencia

Laureate International Universities
A leading international network of quality, innovative institutions of higher education. It's the largest global network of degree-granting higher education institutions

- **Introduction**
- **The gamification of education**
- **Research questions**
- **Method**
- **Results**
- **Conclusions, limitations, and future research**
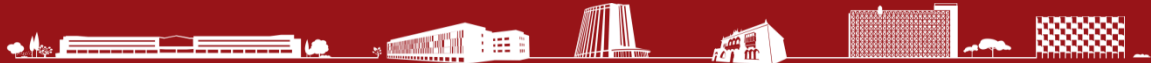- **References**

Introduction

1

2

→ kahoot.it

Introduction

- **Gamification** is receiving an increasing attention as a teaching methodology because the **potential to motivate and to engage students** in their learning process (Hanus & Fox, 2015).

- **But gamification can also be challenging for teachers** when deciding whether implementing gamification in their course or not.

- We approach the **main drivers and barriers** to gamification implementation in the classroom from a teachers' perspective.

The gamification of education

The gamification of education has been defined as **the use of game elements in a learning environment**

(Simões, Díaz-Redondo, & Fernández-Vilas, 2013)
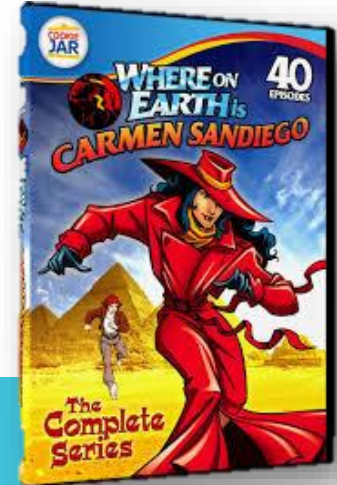
Type of game-based learning approach	Example

Commercial off-the shelve video games (COTs)

Custom-made educational games (serious games)

Using any game element and game dynamic used for learning purposes.

Research questions (RQs)

As teachers play a key role in introducing pedagogical innovations in the classroom, especially technology-related innovations (Ketelhut, & Schifter, 2011; Mumtaz, 2000) teachers will play a key role in adopting the use of gamification in their courses:

- **RQ1**: which are the **main drivers teachers** serving in higher education institutions find to use **gamification** in their courses?

- **RQ2**: which are the **main barriers teachers** serving in higher education institutions find to use **gamification** in their courses?

Method

- A **phenomenology** approach was used in this research.
- Phenomenology aims to understand the meaning that daily events and experiences have for individuals (Maykut & Morehouse, 1994) and allow researchers to understand how invididuals build up their own reality of the world.
- **Data was gathered through online structured interviews** on a sample of teachers serving in higher education institutions.
- **Snowball sampling** was used for selection of participants (Goodman, 1961) in this study.
- A final **sample of 26 interviews** of teachers serving in higher education institutions was analysed. **Only interviews from teachers that reported having used gamification in their courses were analysed**.

Results

- Data was analyzed using text mining software Wordstats 7.0.11. A word frequency analysis was run in order to identify keywords and themes.

<u>**DRIVERS:**</u>

KEYWORD	NUMBER OF CASES	THEME
students	8	attention-motivation
motivation	8	entertainment
creativity	5	interactivity
entertainment	3	easiness to learn

DRIVERS:

- The <u>attention-motivation</u> theme is linked to the entertainment capacity of games as a main driver to motivate students and draw attention to the learning activities. This is expressed by a respondent as follows:

"Gamification increases student motivation because of the entertainment provided by the game" (F1/48).

- <u>Interactivity</u> is also an important theme linked to other constructs such as empathy and dynamism:

"Using gamification in the classroom is dynamic and interactive" (F2/55).

DRIVERS:

- <u>Easiness</u> is not related to how easy is to use gamification for teachers but how gamification facilitates students' learning (easiness to learn):

  "It is easier for students to learn using this methodology" (F3/42).

BARRIERS:

KEYWORD	NUMBER OF CASES	THEME
time	5	lack of resources
resources	5	
methodology	4	subjects
activities	4	classroom dynamics
students	4	lack of interest

BARRIERS:

- Perceived lack of resources (time) is expressed by a respondent as follows:

"Much more time is needed in the process of designing and planning the teaching activities. Moreover you need much more resources to deliver these activities" (M1/41).

"Case room type settings or classrooms with fixed seating are not conducive for simulations I use" (M2/60).

- Teachers perceived students' lack of interest in gamified courses as a consequence of students' lack of perceived usefulness of gamified courses:

"I just used gamification once in my courses because students felt they were wasting their time" (F4/51).

BARRIERS:

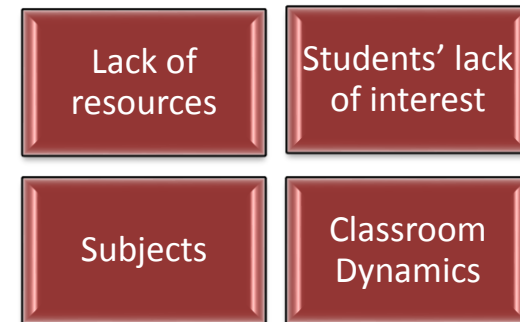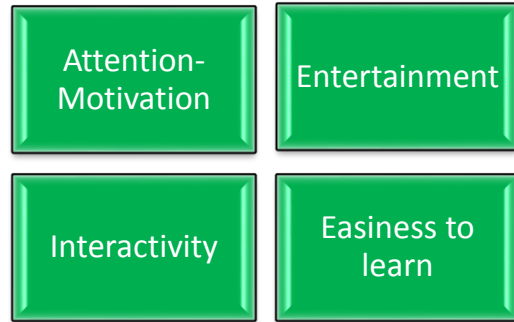- Teachers referred to the subject they are teaching as another main barrier to use gamification:

"Gamification can be useful for some subjects but not for all. For me it is difficult to use gamification in subjects in which I must teach complex maths-related elements" (M3/37).

- Classroom dynamics was also considered a main barrier for some respondents:

"When I use gamification in my courses my colleagues teaching in classrooms nearby criticize the laughter and noise coming from my classroom" (M4/56)

Conclusions

Attention-Motivation	Entertainment
Interactivity	Easiness to learn

GAMIFICATION

Lack of resources	Students' lack of interest
Subjects	Classroom Dynamics

Managers of higher education institutions should pay attention to the main barriers highlighted in this research if they are interested in the introduction of gamified courses in their universities.

Limitations, and future research

- A main limitation of this research is its exploratory approach that prevent us to generalize these findings.

- Future research should use another research approach (e.g. quantitative) to test these findings in a representative sample of the population.

References

Goodman, L. A. (1961). Snowball sampling. *The Annals of Mathematical Statistics*. *32*(1), 148-170.

Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, *80*, 152-161

Ketelhut, D. J. & Schifter, C. C. (2011). Teachers and game-based learning: Improving understanding of how to increase efficacy of adoption. *Computers & Education*, *56*(2), 539-546.

Maykut, P. & Morehouse, R. (1994). *Beginning Qualitative Research, a Philosophic and Practical Guide*. London: Routledge Falmer

Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of Information Technology for Teacher Education*, *9*(3), 319-342.

Simões, J., Díaz-Redondo, R. D., & Fernández-Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29(2), 345-353.

Antonio Sánchez-Mena
antonio.sanchezmena@universidadeuropea.es

José Martí-Parreño
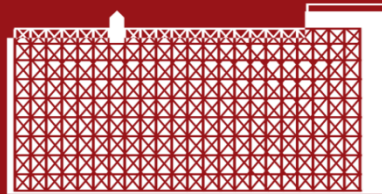jose.marti@universidadeuropea.es

Any questions?

VILLAVICIOSA DE ODÓN

ALCOBENDAS

VALENCIA

CANARIAS

LISBOA

PORTO