Gamification in Higher Education: Teachers’ Drivers and Barriers

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Introduction

The gamification of education

Research questions

Method

Results

Conclusions, limitations, and future research

References
Introduction
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 has been defined as the use of game elements in a learning environment

(Simões, Díaz-Redondo, & Fernández-Vilas, 2013)
<table>
<thead>
<tr>
<th>Type of game-based learning approach</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial off-the-shelf video games (COTs)</td>
<td><img src="image1.png" alt="RollerCoaster Tycoon" /></td>
</tr>
<tr>
<td>Custom-made educational games (serious games)</td>
<td><img src="image2.png" alt="Carmen Sandiego" /></td>
</tr>
<tr>
<td>Using any game element and game dynamic used for learning purposes.</td>
<td><img src="image3.png" alt="Kahoot!" /></td>
</tr>
</tbody>
</table>
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 individuals 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.

**DRIVERS:**

<table>
<thead>
<tr>
<th>KEYWORD</th>
<th>NUMBER OF CASES</th>
<th>THEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>students</td>
<td>8</td>
<td>attention-motivation</td>
</tr>
<tr>
<td>motivation</td>
<td>8</td>
<td>entertainment</td>
</tr>
<tr>
<td>creativity</td>
<td>5</td>
<td>interactivity</td>
</tr>
<tr>
<td>entertainment</td>
<td>3</td>
<td>easiness to learn</td>
</tr>
</tbody>
</table>
DRIVERS:

• The attention-motivation 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).

• Interactivity 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:

- Easiness 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:

<table>
<thead>
<tr>
<th>KEYWORD</th>
<th>NUMBER OF CASES</th>
<th>THEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>5</td>
<td>lack of resources</td>
</tr>
<tr>
<td>resources</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>methodology</td>
<td>4</td>
<td>subjects</td>
</tr>
<tr>
<td>activities</td>
<td>4</td>
<td>classroom dynamics</td>
</tr>
<tr>
<td>students</td>
<td>4</td>
<td>lack of interest</td>
</tr>
</tbody>
</table>
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)
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


Any questions?

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VILLAVICIOSA DE ODÓN

ALCOBENDAS

VALENCIA

CANARIAS

LISBOA

PORTO

INTERNAL USE/ Nombre del propietario