

Gamifying the leaders of tomorrow: how the use of gamification in HE engages and motivates students in business and management education

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1. Introduction

Deterding et al (2011, p1) define gamification as “*the use of video game elements in non-gaming systems to improve user experience and user engagement*”. However, gamification has been around society since the 20th century, notably the badge system associated with the Boy Scouts (Christians, 2018). Despite the history of gamification, it wasn’t until the 1980’s when gamification was recognised academically (Malone, 1981). Since then, gamification has been adopted in several areas, notably employment (Coonradt, 2007) and in education (Deterding, 2012). In education, studies have been conducted investigating how gamification impacts student learning, noting how students are more engaged and motivated. However, the outcomes often stop short of defining what gaming mechanics trigger particular human behaviours and motivations or why a particular behaviour triggered a more intrinsic motivation to learn.

2. Contribution to Theory and Practice

This research will contribute to the academic theory of not only gamification in education but will also go further by establishing what elements of gamification can engage students more as well as what elements intrinsically or extrinsically impact students. In addition, it is anticipated that the conceptual framework developed from the findings of the research will be of benefit to the professional practice of business and management education.

3. Aims and Objectives

The aim of this study is to examine the relationship and impact between gamification and students’ engagement and motivations towards their business and management education. The following objectives will be achieved in this study:

- Understand the existing use of gamification use in education through a narrative literature review.
- Examine how gamification is used to engage and motivate students in HE through an ethnographic study of gamified content used in a classroom setting.
- Conceptualise what is meant by student engagement and motivation to help determine the attitudes of students towards the use of gamification in the classroom prior to a gamified experiment being conducted through a pre-observation questionnaire.
- Determine if students felt more engaged and more motivated to learn in business and management education following observation through a post-observation evaluation questionnaire to inform a proposed conceptual framework.
- Seek validation of the proposed conceptual framework so that it is ready to contribute to practice through semi-structured interviews with market leaders and academic colleagues.

4. Literature Review

In academia, a widely used definition of gamification comes from Deterding et al (2011) who sees gamification being the application of gaming mechanics in a non-gaming context. More holistically, gamification can be seen as a value creating process for an end users experience (Huotari and Hamari, 2012). The term ‘gamification’ has been known to be first coined in a blog post by Terrill in 2008 (Terrill, 2008) whilst an appreciation of gaming methods in learning has been noted in academia since the 1980’s (Malone, 1981). Thebes et al. (2014) defines a set list of mechanics and dynamics of gaming elements that is believed to trigger the engagement and motivation of an end user.

Engagement can be defined as the "*behavioural intensity and emotional quality of a person's active involvement during a task*" (Reeve et al., 2004, p.143). It is argued that "*a narrower definition of the term is needed, one that is restricted to students' level of involvement in a learning process*" (Axelson and Flick, 2010, p.41). Fredricks, Blumenfeld, and Paris (2004) review the idea of engagement and conclude that it is a "*meta construct*" (p.60) that includes not only "*behavioural*" (participation, good behaviour, effort) but also adds "*emotional*" (interest, positive emotions), and "*cognitive*" (psychological involvement in learning, self-regulation) dimensions.

Ryan and Deci (2000) consider motivation to be the catalyst to what provides behaviour its energy and direction. Motivational perspective has gained popularity in information technology design (or in this research context, gamification) and revealed the motive for using technology (Zhang, 2008). Tang and Zhang (2019), consider the prescription of Motivational Affordance Theory (MAT) as something that can indicate what is required to satisfy basic needs when using Information Technology (IT).

In Majuri et al's (2018) literature study on gamification use in education, they found that, in terms of the applied affordances and psychological consequences, gamification studies in the context of education, substantially converge with the general study on gamification (Hamari, Koivisto & Sarsa, 2014). However, when compared to gamification studies in other settings, the behavioural outcomes are more concentrated on a variety of quantitative educational outcomes, such as assignment grades.

With this generation of students being labelled as "*digital natives*" (Castillo-Parra et al, 2022, p798), it is seen as crucial for higher education needing to utilise innovative teaching strategies to ensure students remain engaged in the commitment of their skills and motivated in their learning (Castillo-Parra et al, 2022). Gamification has been seen to be one of these innovative teaching strategies that is used in the classroom, particularly using technology. However, Sobocinski (2017) argues that the difficulties of building and operating a digital system may be preventing gamification from being widely adopted in higher education because of this focus and reliance on technology.

5. Research Methodology

The research philosophy being undertaken in the proposed research is that of Interpretivist. As an exploratory piece of research, in that the researcher is exploring how gamification links to the engagement and motivations of students. It provides a subjective nature that aligns itself well to the philosophical stance of Interpretivism compared to a more objective philosophy such as Critical Realism. Following the Interpretivist philosophy of the research, the ontological stance of both the researcher and the research is that of subjectivity. The researcher is open-minded about the cause and effect that gamification has on the engagement and motivational behaviours of students. Equally, the participants, in this case the students, will have their own opinions on how gamification has impacted their learning in business and management education.

As an abductive study, given a theory is being explored but also aiming to shape how a theory can be applied in future, the methodological choice is multi-method and qualitative. Despite some of the participant questionnaires answers could be quantitatively analysed, the research is wanting to understand how people feel during their experiences of gamification and, therefore, it's subjectivity is more appropriate for qualitative analysis. Furthermore, with semi-structured interviews planned with academic staff and suppliers of gamification technology in HE, this also aligns itself to qualitative analysis and multi-method.

Questionnaires will be used to collect the data on participant attitudes towards their engagement and motivation of gamification in the classroom. In addition, observational notes will be collected by the researcher during the seminars which will provide further data from a Scholarly-Practitioner perspective. Semi-structured interviews will be conducted to staff in the participating organisation who have experienced the facilitation of gamification in their lessons. Semi-structured interviews will also be conducted with suppliers of the gamification software.

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