Gamifying the leaders of tomorrow: How the use of Gamification in HE motivates students in Business and Management education

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1. Introduction and Literature

Gamification incorporates game design elements and mechanics into non-game contexts (Deterding *et al.*, 2011). The concept of gamification has gained popularity in recent years as organisations and education sectors seek to increase engagement and motivation amongst their target audiences (Sainath and Sai, 2023).

Gamification has been applied in various industries, where gamified learning systems increase engagement and motivation (Espinosa, 2016). The use of gamification in Higher Education (HE) is seen to challenge the more traditional didactic teaching methods that have been accustomed to the sector (Osorio, 2016).

Despite its popularity, gamification has faced criticism. It is considered that gamification oversimplifies complex problems and may not be suitable for all situations (Rodrigues *et al.*, 2022). Further, it is argued that gamification may not always be ethical and can be used to manipulate people's behaviour for commercial or political purposes (Hyrynsalmi *et al.*, 2017).

Whilst it is widely accepted that gamification motivates and engages students in their studies, there has been little research on what specific gaming mechanics facilitate motivation (Koivisto and Hamari, 2019). Thiebes *et al.*, (2014) defined five gaming key mechanics (*System Design, Challenges, Rewards, Social Influences* and *User Specifics)* following a systematic literature review, allowing a streamlined way at investigating gamification more detail. Deci and Ryan's (2000) *Self-Determination Theory* (SDT) has been widely regarded as a successful theory that depicts the three behaviours of *Autonomy, Competence* and *Relatedness*, requiring satisfaction to inhibit intrinsic motivation in an individual.

This study sought to define what specific gaming mechanics have a positive relationship with one of the three motivational behaviours of SDT. The aim of this research was to create a framework that is a blueprint for the successful implementation of gamification in business and management education, which factors into digital competency for staff and students. In addition, the validated framework anticipated to inform readers of the mechanical elements and categorise which elements can ensure the appropriate behaviours that can trigger intrinsic motivation amongst users.

This study validates if gamification has the appropriate mechanics to trigger human behaviours that will ensure intrinsic motivation in the classroom. Therefore, the likelihood of a student continuing their studies and graduating into a graduate role with the desired skills expected from industry increases.

2. Methodology

Given the subjectivity surrounding the use of gamification, this study adopted a pragmatic philosophy with a mixed-methods approach. Students were surveyed on their experience of gamification. A survey was deemed the most appropriate method to ensure optimal participation and a method students felt comfortable doing, as opposed to a focus group. The results underwent Structural

Equation Modelling (SEM) to determine the relationships between the gaming mechanics and the behaviours of SDT.

Staff who facilitated gamification were interviewed to reflect on their experience and opinions of gamification. Whilst focus groups were considered, the researcher was mindful that some staff may have more experience in facilitating gamification and, therefore, may dominate the conversation and skew the results. The data collected was reflexively thematically analysed.

3. Findings and Discussion

Of fifteen possible positive relationships, the SEM determined that nine of the fifteen had passed. The mechanics of *User Specifics* and *Rewards* presented positive relationships across all the behaviours of SDT. The mechanic of *System Design* did not present any relationships within SDT. This confirmed that the user interface of the gamification product was key in determining a positive relationship with SDT.

The staff interview data generated four themes: *Definition of Gamification, Experiential Learning, Academic Acceptance* and *Real Experience*. The terminology of gamification was deemed too broad and risked confusion with staff in labelling their approach in the classroom as gamification. Additionally, there was concern that staff were too often being technical support for software and the time consumption may put other staff off using gamification, drawing comparisons with other studies (Kirschner and De Bruyckere, 2017).

Staff did highlight that the use of gamification in the classroom catered for Generation Z students well, fostering an inclusive environment. Equally, the facilitation allowed for key skills required for the workplace to be developed in a safe environment.

The *User Specifics* gaming mechanic presented positive relationships across all the behaviours of SDT. The use of personalisation falls under this mechanic and has been seen as a positive contribution to intrinsic motivation (Rodrigues *et al.,* 2016).

The gaming mechanic of *System Design* not presenting any positive relationships was unsurprising. Students were reliant on feedback from the lecturer as opposed to being in the system. This lack of immediate feedback can present demotivation amongst students (Alabbasi, 2018). Furthermore, the view of staff needing to be reliant on third parties for technical support or for them to be the point of contact validates the SEM result that *System Design* was not intuitive enough to present relationships across SDT. This should be concerning to suppliers given this generations typical student cohort are digitally native and more inclusive than previous (Castillo-Parra *et al.,* 2022).

4. Conclusion

This study was able to determine what gaming mechanics contribute to the behaviours of SDT. The outcome of the SEM presents a framework that can allow staff to either determine what mechanics they wish to explore to achieve SDT or to evaluate their current practice.

The study concludes that the application requires self-intuition if students are to be intrinsically motivated when using gamification. Therefore, personalisation should be a focus for suppliers when developing their products.

Staff are more likely to adopt gamification if the products used are of a standard that Generation Z can "pick up and play" as opposed to developing or delivering training materials. There is a need to clarify what the term gamification is to reduce the likelihood of it being dismissed by academics as something that doesn't add value in the classroom, desire this study indicating the value it does have, particularly to foster an inclusive environment and hone the skills required for the workplace.

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