

INNOVATIVE PRACTICES

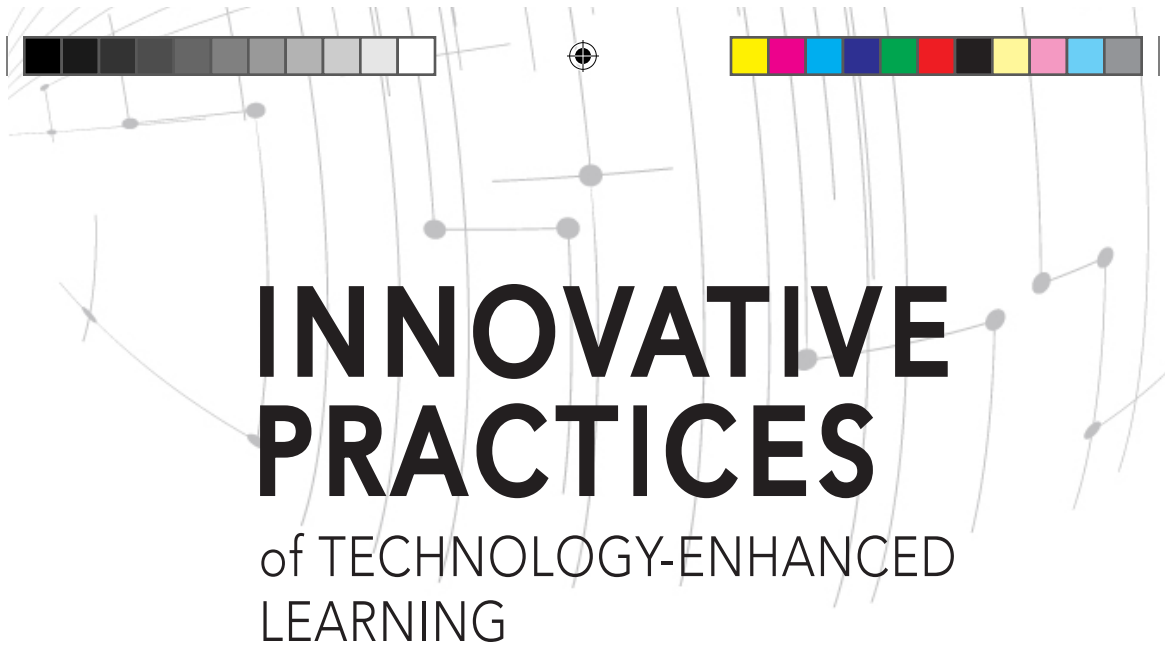
of TECHNOLOGY-ENHANCED
LEARNING

Editors

**DONNIE ADAMS
DOROTHY DEWITT**



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PENERBIT UNIVERSITI PENDIDIKAN SULTAN IDRIS



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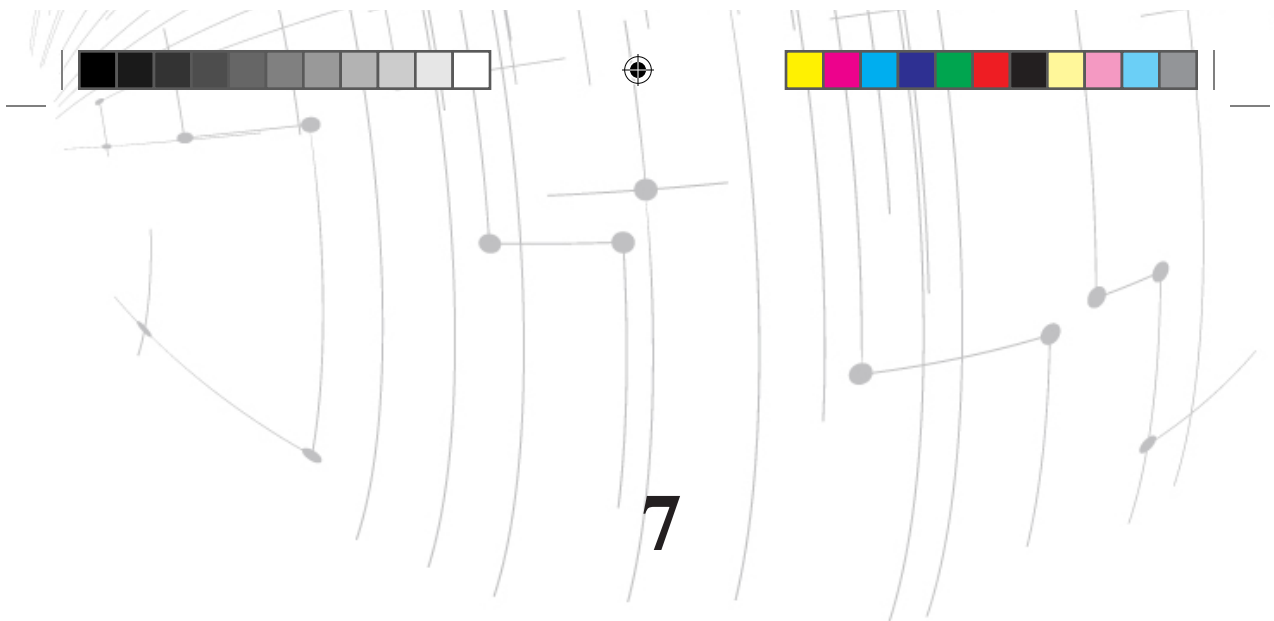
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GAMIFICATION IN A BLENDED LEARNING ENVIRONMENT: THE MOJO OF CLASSDOJO

Kee-Man Chuah and Fitri Suraya Mohamad

ClassDojo

ClassDojo is a class management application that is designed based on gamification principles. It can be accessed via three roles: teachers, parents and students. It is primarily meant for primary and secondary schools by going against the usual learning management approach. The key to ClassDojo is it allows teachers to keep track of students' progress by giving positive feedback to the students easily. Each student can be added to the class, and they will be randomly given an avatar of a cute monster. Every positive behaviour can be given points. Through ClassDojo, teachers acquire class management in an effective and funny way (ClassDojo, 2018). It is also available as an app, making it more convenient for students to access. Despite being perceived as childish, some researchers have applied it in higher education settings and have reported a positive impact on learners' engagement and learning attainment.

ClassDojo comes with vast resources to guide teachers as well, and it is available via <https://www.classdojo.com/resources/> The link also contains tutorial videos as to how ClassDojo can be used for various learning purposes.



Instructional Strategies for using ClassDojo

Although ClassDojo can be directly used, this chapter reports how it was applied to a course through gamified modules. The modules were designed using the core drives in Octalysis model. There are 8 core drives in the model, but the study only applied four core drives: Epic meaning and calling, Development and accomplishment; unpredictability and curiosity; and loss and avoidance. Details on these core drives can be obtained via Chou (2015) or <https://yukaichou.com>. The modules cover 7 units in a course which focus on computational linguistics, and each module was labelled as a stage in the gamified world. As they completed the challenges set for each stage, their progress was monitored via ClassDojo instead of using conventional ways such as Excel Sheets or whiteboard. Any action or behaviour that is commendable was also given points. ClassDojo makes learning “visible” as students can monitor their learning, which indirectly promotes self-regulated learning.



1. Introduction



With the increasing number of so-called digital natives entering the education system, the use of Internet tools in supporting teaching and learning is perhaps no longer an option, but a necessity. This “new breed” of learners is often perceived as a generation that always demands the teachers to adopt technologies in the delivery of lessons. While the classification and description of generational differences across diverse spectrums of learning have been somewhat controversial (Gardner & Galoozis, 2018; Lai & Hong, 2015), it is safe to assume that there is indeed a difference between pre- and post-Internet generations in the way they deal and cope with technological developments. Although the exposure to technology among the digital natives at the early age has no drastic impact on their learning characteristics (Lai & Hong, 2015; Sarkar, Ford, & Manzo, 2017), studies have shown that they prefer a technology-driven learning environment, and one that supports multi-modalities promotes co-creation among the learners (Jones & Shao, 2011; Margaryan, Littlejohn, & Vojt, 2011; Prensky, 2001; Oblinger & Oblinger, 2005, Rosen, 2010). This shift calls for a change in the way learning is conducted in the traditional classrooms. It is even more pivotal to examine the role of innovative pedagogies





in tertiary education than primary or secondary schools, as higher institutions of learning tend to be comfortable with the usual lecture-style of delivery.

One pedagogy that has gained the educators' attention in dealing with digital natives is gamification. Gamification is widely defined as the application of game-based elements or mechanics to non-game context (Deterding, Dixon, Khaled, & Nacke, 2011) with the primary purpose of motivating users to perform specific tasks. At face value, it seems to indicate the elements of playfulness in learning, making it less attractive to faculty members in higher education as universities and colleges are widely regarded as "serious". Nevertheless, in recent years, researchers have seen a profound increase in the number of studies on gamification conducted in higher education settings. The common topics of interest cover impact of gamification on students' deep learning (Tsay, Kofinas, & Luo, 2018), learning engagement (Cassano, Piccinno, Roselli, & Rossano, 2018), and game elements that nurture self-regulated learners (Hamari, 2017; Ong, Chan, Cho, & Koh, 2013). Most of these studies have focused explicitly on technology-based gamification as it aims to make learning more appealing to students than using the teacher-centred approaches.

In doing so, blended learning environments are often chosen as it gives ample time for students to engage in online activities before meeting their lecturers face-to-face in class. The gamified learning activities are done mainly using the famous game mechanics of points, badges and leader boards. Despite its positive outcomes, these mechanics do not seem to be able to sustain the students' engagement and satisfaction. Urh, Vukovic and Jereb (2015) mentioned in their proposed model that one problem of implementing gamification through e-learning is that the monitoring of learners' progress can be a daunting task if the teacher is not technically sound to produce his or her own method of points tracking. Students are more likely to lose interest when they realise the teacher made no visible attempt to keep track of their progress. Previous studies have not provided enough suggestions in dealing with such a problem. In fact, very few studies mentioned how they monitor the progress of their learners in a gamified learning environment. Most tend just to report the use of specific tools ranging from quiz applications like Kahoot! Quizlet, and Quizziz to collaborative tools such as Google Docs, Padlet and Trello. It is due to this gap in research that this case study was conducted.





2. Purpose

The purpose of this case study is to examine the usefulness of ClassDojo as the technological tool for gamification to be done in blended learning mode. Specifically, it aims to:

- i. Identify the affordances and constraints of ClassDojo in the implementation of gamification in a blended learning environment
- ii. Find out the students' perception of their learning experience through the designed gamified learning modules.

3. Related Literature

E-Learning in Higher Education

In general, e-learning is regarded as technologies that are used to assist students in improving their learning. Some researchers have talked about e-learning through various scopes, particularly in the ability of the e-learning platforms, often known as learning management systems. For example, Zamfiroiu and Sboru (2014) mentioned e-learning should be capable of supervising learning and managing learning materials online, permitting users to gain access to those resources conveniently online. In higher education, e-learning has become a must so much so that universities are investing heavily in maintaining ICT infrastructures and software related to e-learning. Jamian, Ab Jalil and Krauss (2018) reported the same trend in Malaysia, although most of the universities do not offer distance learning programmes. It is because e-learning has provided more opportunities for students to engage in learning activities and communicate with their lecturers than before (Draves, 2007; Lai & Hong, 2015). Most e-learning implementations in Malaysia, however, are still pretty much in blended learning mode whereby online activities and materials are provided as supplementary to face-to-face classes. Various tools and strategies are used for this purpose, and one of them is gamification.

Gamification and Game Mechanics

Gamification should not be confused with games. As explained by Maroney (2001), games can be accepted as “a form of play with goals





and structure.” All games, particularly computer games, are meant to have entertainment values, and with technology, the entertainment level is amplified through more realistic graphics and engaging effects. Some studies have revealed that playing these games provides opportunities for students to enhance their problem-solving skills, critical thinking and promote positive changes in behaviour (Gee, 2003; Hamari & Koivisto, 2013; Zimmerman, 2002). The latter, however, could be easily reversed as games are known to cause other adverse changes in behaviour from addiction to sedentary life (Ha, 2007).

On the other hand, gamification is “the use of game design elements and game thinking in non-game contexts” (Deterding et al., 2011). Strange enough, the term ‘gamification’ began to emerge around 2007 (Chou, 2015) but it became popular in 2012 until now. It seems to go hand in hand with the development of smartphones. As smartphones became prevalent, many mobile apps are embedded with gamification elements even if they are not meant to be used as a game. The whole point of gamification to include game elements of game mechanics into day-to-day contexts or in this case learning context. Instead of merely collecting virtual points for fun, gamification has a higher purpose of achieving goals that are beyond the game. The review by Alsawaier (2018) showed the higher education environment “could benefit a lot from gamifying not only their graduate recruitment strategies, but also the course content and curricula” (p. 2) but the real impact of gamification in higher education still needs further empirical evidence. The current data did not provide a longitudinal analysis of how learners benefit from the gamification process (Alsawaier, 2018; Hamari et al., 2016). The inconsistency in the results from previous studies may be rooted in inadequate understanding of how gamification derives learning outcomes in various learning environments and how game mechanics and dynamics should be designed in a gamified learning module.

In designing a gamified learning environment, the famous game mechanics are points, levels, badges, achievements, virtual goods, leader boards, and virtual gifts (Browne, Anand, & Gosse, 2014). Game dynamics, on the other hand, are the emergent behaviour that arises from gameplay, when the mechanics are put into use and aesthetics are the emotional response from the players to the gameplay. Some examples of game dynamics elements are rewards, status, competition, self-expression etc. The combination of game mechanics

