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A Real Game-Changer in ESL Classroom? Boosting Vietnamese Learner Engagement with Gamification

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Abstract

The significance of gamification has been robust in educational contexts as gamification provides a greater engagement and empowerment among ESL language learners. This research aims to reconsider the role of gamification beyond its conventional use as gamified classroom activities, incorporating it into the whole journey of an ESL blended learning course. The study was conducted in a Vietnamese private university with a total of 50 learners for 12 weeks. E-journal and interviews were employed to explore learners' deep thoughts of gamification. Each week, five learners voluntarily submitted their journals through a link by Google Form. Additionally, interviews were also conducted in the middle of the course, week 7, and at the end of the course, week 12. Data was analyzed into 3 main themes: behavioral engagement, emotional engagement, and cognitive engagement. The result indicated that ESL learners achieved a deeper engagement in a gamified blended classroom, behaviorally, emotionally, and cognitively. To be more specific, learners attained a higher level of participation, effort-making, and contribution to learning. Moreover, participants showed their interest and confirmed the decrease of language anxiety. Finally, students developed a sense of social connection and investment in their learning, which was regarded as the expressions of cognitive engagement.

Keywords: gamification, blended learning, ESL classroom, learner engagement

Introduction

After being coined in 2008 by Deterding et al. (2011), gamification has spread its recognition in various domains of knowledge such as customer service (Streukens et al., 2019), cognitive behavioral therapy (Shtern et al., 2012*)*, education (Attali & Attali, 2015), and other fields. It is considered an ideal means to satisfy different human desires including but not limited to status, achievement, self-expression, competition, and altruism (Bunchball, 2010). Thus, it can empower intrinsic motivation, boost learner engagement, enhance learning outcomes, create collaborative learning and promote positive behaviors (Landers & Landers, 2014; Lee & Hammer, 2011; Moncada & Moncada, 2014).

However, through a systematic review of gamification, there is not yet a conclusive consensus on the effectiveness of gamification in educative contexts, especially regarding the application in learning a language as a second language (Dehghanzadeh et al, 2019). In

addition, there is little research that explores different game elements and assessment strategies in relation to its efficacy (Lopez & Tucker, 2019). Dehghanzadeh (2019) also noticed several limitations in previous studies: (1) short duration, (2) lack of control group, (3) lack of qualitative data. Moreover, as the notion of engagement in the game is different in conflicting manners (Whitton & Moseley, 2014), the influence of gamification needs further investigation in diverse domains of engagement (Hung, 2017).

Addressing these limitations, this research contributes to the literature by investigating learner engagement within the intervention of a long-term gamified blended course. Furthermore, this paper hopes to support the gap regarded as the methodology (e-journal and interviews) and explores qualitative data in a meaningful way. Finally, the qualitative result would also extend the previous literature by exploring learner engagement in three main dimensions: behaviors, emotions, and cognition.

Review of Literature

Defining Gamification

While games have been used widely in educational contexts, gamification is a fairly new concept. Gamification is known as the implementation of game-like mechanics (points, leaderboards, and badges) into non-game contexts (Deterding et al., 2011; Sheldon, 2011). In this paper, the term *gamification* refers to the use of "game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems" (Kapp, 2012, p. 10).

According to Dickey (2005), notable elements of gamification include meta-centered activities, rewards, and progression. Moreover, the process of gamification should be taken into consideration. Deterding et al. (2011) proposed five stages of game elements: the interface design patterns, game design patterns and mechanics, design principles, game models, and game design methods.

Gamification in Second Language Learning

The positive effects of gamification have been widely stated in a large body of literature, both conceptually and empirically (Dehghanzadeh et.al, 2019). In ESL environments, gamification offers the possibility to develop student engagement (Huang et. al., 2019; Landers & Landers, 2014; Tan & Hew, 2016), motivation (Ghasemi et al., 2017, Hanus & Fox, 2015), (3) learning outcomes (Dicheva et al, 2015; Tan & Hew, 2016), problem-solving (Kapp, 2012), and collaborative learning (Buckley & Doyle, 2014).

The benefits of gamification have been explored and explained by the theory of motivation, engagement, and psychology. The most commonly grounded theory related to gamification is the self-determination theory (SDT) (Ryan & Deci, 2000), which mentions the extrinsic and intrinsic motivation. According to Muntean (2011), gamification empowers

engagement by making use of extrinsic elements such as levels, points, and badges; while it fosters intrinsic motivation by creating a sense of mastery, autonomy, and connectedness.

In details, most of the studies on gamification has highlighted its power to involve learners actively. For example, learner motivation in the experimental group (25 students) was enhanced significantly (25 students) after the treatment of the Gamified Program (Ghasemi et al., 2017). In Lam et al. (2018), quasi-experimental and qualitative research methods were also employed to examine engagement and motivation. The results also indicated that learner engagement and motivation were tremendously higher in the experimental group. However, there was no significance in the academic results in the two groups in this research.

Regarding the learner outcome, gamification was proved to be correlated with the increase in the percentage of passing students and participation in challenging tasks (Iosup & Epema, 2014). In the same line, students in a 14-week-gamified course outperformed those who belonged to non-gamified learning conditions (Yildirim, 2017). In contrast, some studies showed no significant improvement in academic results in two groups (Dominguez et al. 2013; Lam et al., 2018). Therefore, the literature on academic improvement needs further contribution.

Besides, gamification has been known to reduce language anxiety, increase learner attention, and boost the level of willingness to communicate (Arnold, 2014; Deesri, 2002; Reinders & Wattana, 2012). It could be explained that learners enjoy a sense of freedom and are not afraid to fail (Lee & Hammer, 2011). According to NMC-Horizon Report (2014), well-designed gamification activities bring a huge gain in learners' productivity and creativity (Johnson et al., 2014) because they create a sense of progression (Werbach & Hunter, 2012) and learner agency (Stott & Neustaedter, 2013).

However, making the most of gamification is not an easy task. To move beyond the superficial integration of gamification, it is essential to take into account the game elements "the story, the challenge, the sense of control, decision making, and a sense of mastery" (Kapp, 2012, p. xviii).

Gamification in Blended Learning

In higher education, most of the gamification interventions have been investigated in an online environment but currently, more studies have been explored with the combination of face-to-face and hybrid (Dicheva et al., 2015). Tan and Hew (2016) employed an experimental and control group in research with the intervention of gamification in a blended course. Although there was no significant difference found in the result of pre-test and post-tests, the level of engagement in the experimental group was relatively greater and the outcome was generally higher. However, this research was time-restricted which only consisted of a course of 3-day blended learning. Furthermore, the engagement in this research was explored generally without explaining and exploring various dimensions of engagement. In the study of Dominguez et al. (2013), learners showed a very positive attitude in an e-learning IT course for undergraduate students. They confirmed the excitement and enjoyment during their learning experience. However, it was noted that the academic result in gamified group was not positive.

Gamification and learner engagement

Learner engagement

While there is widespread consensus on the significance of learner engagement, defining and measuring it precisely is challenging (Sinatra et. al., 2015). In educational contexts, engagement is commonly referred to as the time and effort that learners invest in studying and related tasks (Trowler, 2010). Learner engagement has been arranged into the different levels from attendance (the lowest) into learner desire and commitment, intrinsic motivation, emotional feelings, and finally social engagement (Whitton & Moseley, 2014).

Types of learner engagement

Engagement has multiple dimensions and it could be ranged from a micro-level (time on task) to a macro level (course, school, or community) (Sinatra et al., 2015).

Typically, engagement is characterized by behavioral, emotional, and cognitive dimensions (Fredricks et al., 2004):

1. *Behavioral Engagement* refers to student's compliance with norms, for example, the presence, attendance, and persistence. Students who are behaviorally disengaged frequently express negative behaviors such as skipping class, boycotting, or even disruption.
2. *Emotional Engagement* focuses on the attitudes towards schools and learning. Emotionally engaged learners often show positive responses such as happiness, excitement, satisfaction.
3. *Cognitive Engagement* is seen as the highest level of learner engagement. Learners are cognitively engaged when they invest in their learning and take responsibility for their improvement.

Gamification in various dimensions of engagement

The research which is closely related to my research is the qualitative study on the expressions of engagement in gamified course by Kalinauskas (2018). Results showed that there were six forms of engagement expressions: participation, rush, flow, emotional engagement, cognitive engagement, and agentic engagement. It was also confirmed that the temporal features of engagement were transferred into long term engagement. Another study that explored the correlation of gamification and cognitive engagement was conducted by Hew et al. (2016) in a short-blended Designing Questionnaire course. Although no significant difference was found between two groups in test-scores, higher-quality counterparts belonged to the gamified group, which was considered an expression of cognitive engagement – the investment in learning. One drawback of this research was the short

duration, which could be improved by examining the engagement in a long period (Hew et al., 2016).

The previous literature is well-related and meaningful to my study. In Vietnam, a large number of English language learners, from the public system as well as private sectors, cannot communicate successfully and lack confidence (Vu, 2007 as cited it Le, 2011). The extent to which learners are engaged in their learning is strongly believed to be a compelling factor in predicting and producing positive academic outcomes, as well as ensuring future work accomplishment (Trowler, 2010). Therefore, the instructor needs to employ new strategies to engage learners.

Aligned with the theoretical and empirical support, I focus on implementing gamified blended learning experience in the whole course, both eLearning and face-to-face learning. Adding game mechanism in-and-outside class helps to explore the gap in literature where online activities haven't been considered sufficiently (Hung, 2017). To make a further contribution to the gap of literature, the course took place over a longer period of three months (12 weeks). Learners were also assigned in a group to achieve benefits as teammates or virtual friends fostered collaborative learning (Kapp, 2012). Finally, qualitative data was expected to bring a deeper exploration of diverse expressions of engagement.

Research Question

Empowered by theoretical evidence and the desire for a better understanding of gamification, research was conducted in a class with 50 students. The research question addressed in this study is:

1. How does gamification influence behavioral, emotional, and cognitive engagement?

Method

The research employed a qualitative research design as it could explore the inner thoughts, perspectives, and emotions over time (Maxwell, 2005). Before the implementation, all students agreed to sign a consent form. They were also aware that the data would be used for the research purpose and all their identity would be kept confidential.

The context of the research was a private university in the South of Vietnam. The participants of this research were a sample of 50 freshmen who voluntarily experienced the new treatment in their studying. There were 22 males and 28 females, who were put into the same class after the screening test. Referring to their language proficiency, after the screening test, they were estimated to fall into A2 (Basic level) in the CEFR scale. During 3 months, learners experienced a gamified blended course with the use of *the App Classcraft*. Each week, students took a turn to submit the e-journal through google form (around 5 journals/ week). Moreover, semi-structured interviews were conducted at two different times (week 7 and week 12) with 5 volunteers to dive deeper into learners' reflection on their learning

experience. Each interview took place separately within 15 to 20 minutes. Before starting the conversation, they were asked to sit quietly and look back on their learning journey and review the experience. After that, they were asked to share their experience and then the researcher asked more questions to understand their viewpoints on the gamified blended course. In the final step, all qualitative data were coded and analyzed into three chosen major themes: behavioral, emotional, and cognitive engagement.

Setting

This study was conducted by using App ***Classcraft,*** which allowed the instructor to turn teaching goals into adventures/quests for students to conquer. This gamified learning tool has a consistent system of awards for learners.

Learners were put into groups of 5 and joined the game with an interactive map. During the course, each team had to complete different quests to make sure they were able to attain the learning goals within a semester.

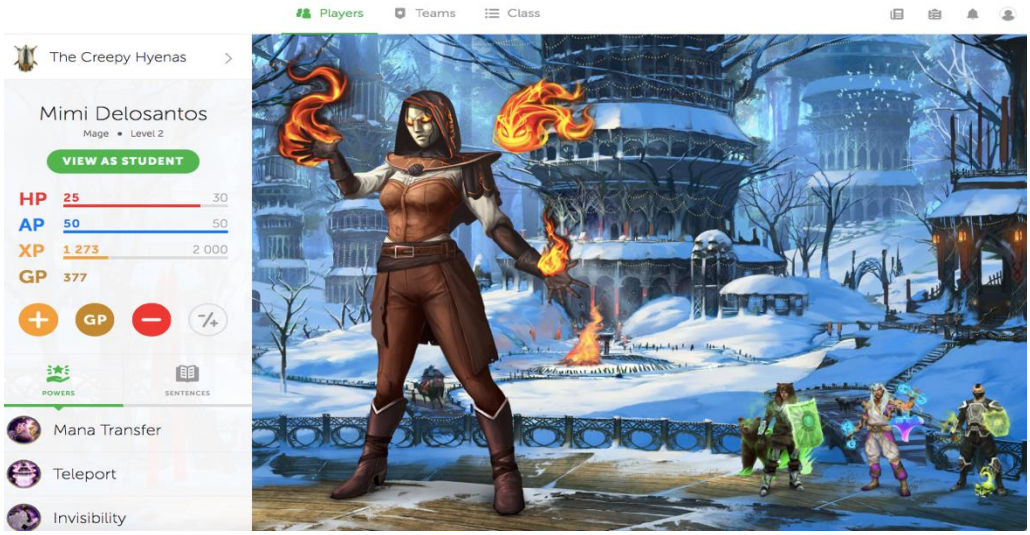
Figure 1

A small adventure in an island

Each learner had an account that allowed them to follow their learning path. There were 4 different points, but the teacher just used three kinds of points. Particularly, XP- Experience Points was for measuring the progress, HP- Health Points was for good behaviors, and GP- Gold Points for learners to customize their characters.

Figure 2

An example of an account in a Demo Class



Results/Findings

Behavioral Engagement

Regarding behavioral engagement, the results revealed three main themes: learner participation, effort making, and contribution. It was confirmed that gamification was immensely helpful to encourage learners to participate, gain effort and devotion to learning.

Participation: The system of gamification was one of the most essential factors to attract attention and participation. A large number of journals (50/60 excerpts) demonstrated the willingness of completing various tasks, even the challenging ones. As there was a consistent system with a clear path, students understood what to do to reach their goals:

> "*Usually, I often feel bored with silent activities like reading. As I know I could get levelled up, I am more motivated".* (Week 3 - Journal 2).

Effort-making: Effort-making is known as an obvious expression of engagement. A consistent system of rewards, including buying virtual things for ***the character*** was crucial to boost the attempt. Interestingly, quite a few participants (17/60 excerpts) worked on the activities beyond the expectation:

> "*I enjoy being rewarded for my attempt. I want to get more XP and GP. After I get notified for rewards, I often check out to see if there is any optional task."* (Week 5 - Journal 1).

Half of the journals (32/60) showed behavioral engagement such as early submission and completion of optional tasks. The purpose was to obtain rewards such as outfits for their pets or a new look for ***the character***.

In the first interview, all five volunteers (5/5) agreed that they had made a great deal of effort and four out of five interviewees showed sustainable participation during the long-term blended learning course. They did it out of curiosity over the first few weeks, then gradually it turned into "*my routine*" (Student 2) and "*without pressure of academic outcome*" (Student 5). On the other hand, a respondent showed "*ups and downs with my studying*", and a reason for that is "*I am excited with completing goals and challenges but then it gradually turns into something normal. I still like to take part in games, but I am not as excited as the beginning."* (Student 4).

Contribution to learning: To complete the gamified-tasks, there appeared obvious contribution:

> "*Our group always go to class regularly to get the reward for "being present"- We are doing well together. It will be a shame if our group loses points because of me*." (Week 6 - Journal 3)

In the worst cases, if one fell behind, other members would support him from the penalty. In contrast to traditional thought on penalty, the learner found it "*kind of fun*" (Week 4 - Journal 2), "*a bit nervous but fun"* (Week 7 - Journal 3) when he was in a "*danger mode*" - a special feature in the game.

In short, regarding behavioral engagement, the dominant view was positive. The participation rate was high and there was a strong confirmation of learner effort and contribution. However, there remained a few barriers to behavioral engagement. In the two interviews, rules of gamified courses were seen as "*vague"* "*a bit complicated*" in the initial stages of learning (Student 3, Student 4 – Interview 1). These problems appeared quite frequently at the beginning of the course. Moreover, some learners had problems with technology, which affected the completion of online-tasks.

Emotional engagement

Besides enhancing learner's good behaviors, gamification was asserted to help assist students to engage emotionally. Concerning emotional engagement, two main factors were taken into account, including learner confidence and learner interest/ excitement.

Interest/Excitement: Strong evidence of learner interest and excitement was found when looking into entries. A majority of journals (45/65) expressed a sense of excitement "*It is a great fun to complete a challenge*." (Week 2- Journal 3), "*we shout a lot when coming first in a challenge*" (Week 3 - Journal 2). On the other hand, the level of excitement reduced if the level was not appropriate. Through interviews, a respondent struggled with the responsibility:

"*I like the exciting atmosphere in my class, but I am not very good with group challenges. I tend to be slow and feel like those games are not for me.*" (Interview 2 - Student 2).

Low anxiety: A large number of learners (37/60 excerpts) recognized the increase in their confidence supported by gamification technique. They "*feel good*" (Week 6 - Journal 1), "*find learning relaxing"* (Week 2 - Journal 3). Gamification, moreover, worked well with inhibited learner:

"*Actually, I am not good at English; I feel scared all the time. But doing quests makes me feel that all are just games."* (Week 4 - Journal 5)

In spite of the gain in confidence, challenging tasks could still trigger anxiety or nervousness. "*Completing the task is scary at times. I am not knowledgeable enough to get the badges and I feel demotivated. However, it is better to do individual and online-tasks to level up."* (Week 10 - Journal 3).

Cognitive Engagement

The result suggested that gamifying a course has a great potential to engage learners not only in terms of behaviors and emotions but also promote their cognitive attachment. The proof of cognitive engagement was not as strong as the other two above dimensions of engagement, but it was still encouraging.

Sense of social connection: During a gamified blended course, a sense of social connectedness (15/60 journals) was demonstrated. As learners became a part of a team with common goals, they were bonded. Besides classroom communication, most of the groups used Zalo, a popular chat tool in Vietnam to catch up with activities. At the end of the research, there appeared a more frequent interaction and intimacy:

After having fun time together, like rescuing a member from danger, we laughed and made fun of each other. We are from different departments but we have had a few meet-ups after English class as we develop our friendship. That's why we enjoy Classcraft, it brings us closer." (Week 12 - Journal 1)

Concentration and Investment: The high level of concentration is one of the most essential indicators of cognitive engagement. A new experience with visual effects and gamified mechanisms had captured learners' attention enormously.

Small incentives awarded to learners not only encouraged their participation but also raised their concentration:

"*I think I focus in my English class most of the time, as a sense of competition is always there. I want to have high marks not only for myself but for the sake of my group*." (Week 10 - Journal 2)

Doing extra work is another indicator of cognitive engagement. Through journals and interviews, there were various reasons for students to complete the optional tasks, not only to have points but also to enjoy different features of the game. Some chose to do further tasks to equip the character with outfits or make up the points taken when they make mistakes. One student in the final interview mentioned the motivation was that he just wanted a real gift from the teacher as he said:

> "*Those activities made me feel connected with my teacher as I think teacher invested a lot in designing games in-class and outside class*." (Interview 2 - Student 5). To sum up, diverse gamification features were appreciated as it fulfilled different incentives.

Barriers to engagement: Although the evidence of engagement was tracked, there appeared some signs of disengagement. In the first phase of the study, a few learners were disengaged as they considered the rules ambiguous.

Learners could also be reluctant when they missed a few first sessions. When they realized they fell behind, some were eager to do extra tasks (2 excerpts of the journal) but some students (2 excepts of the journal) felt discouraged.

One significant thing explored from the journals and interviews was that the engagement depended on collaborative learning. Learners were motivated if they felt a sense of belonging to their team. Problems with collaboration mainly accounted for the boredom and disengagement.

In this blended course, the engagement in face-to-face (f2f) learning and e-learning was quite different. Although the rewarding system was made for both kinds, the evidence of engagement was mostly witnessed in face-to-face learning. Especially with emotional engagement, learners reported positive feelings mostly in the classroom. The imbalance of engagement appeared in the journal and interviews:

> "*I get a lot of rewards in classroom but I often lose my points with online tasks in Classcraft. To be honest, I am more involved in classroom when I could see teachers and classmates directly."* (Interview 2 - Student 4) (Week 3- Journal 4)

The last issue was the change in learner engagement. Specifically, the evidence of engagement tended to be lower at the end of the semester. Additionally, at this period, the signals of cognitive engagement were also quite weak. The reasons were various which could be explained by the preparation for final exams, according to an interview. The most encouraging thing was the consistency in learner emotional engagement during the course.

Discussion

During the study, learner engagement the ESL gamified blended course was exposed positively in both three dimensions: behavioral, emotional, and cognitive engagement. The responses of gamification were highly positive and evident. In this qualitative study, the most

frequent expressions of engagement were related to emotions, with a high level of learner excitement, interest, and confidence. Moreover, behavioral engagement was also promising due to the treatment of gamification. In the finding, behavioral engagement mainly involved the high degree of participation which was aligned with numerous studies (Iosup & Epema, 2014; Kalinauskas, 2018). Besides, cognitive engagement was identified through journals and interviews although it was still relatively restricted. It could be explained by Fredricks et al (2014) who viewed cognitive engagement as the highest form of engagement and required a great deal of self-regulating from learners.

The result in the study was in line with previous literature supporting the benefits of gamification on learner engagement (Arnold, 2014; Huang et. al., 2018; Jimerson et. al, 2003, Tan and Hew, 2016). Especially, the results supported the confirmation of Kalinauskas (2018) that gamification strongly effects participation and emotional engagement. Moreover, although the forms of cognitive engagement appeared through journals and interviews, it was less affected by the mechanism systems in gamified course (Kalinauskas, 2018).

Additionally, this research contributed to the literature by analyzing the three dimensions of engagement in detail. With cognitive engagement, the social and interactive aspects of gamification play a crucial role (Hansch et al., 2015). In this research, the sense of connectedness was also the most important factors contributing to cognitive engagement. Besides, the learner also made more investment in learning, which showed a consensus of the findings of Tan and Hew (2016).

Besides the major themes on the three categories of engagement, there were some issues revealed in the findings. Firstly, the rules of games must be clear to reduce anxiety and disengagement. Secondly, gamification was frequently considered as collaborative learning, therefore, learners benefited significantly if they felt a good sense of connection in group and the classroom. In contrast, learners easily lost motivation and engagement in their learning paths although there were also individual tasks in this blended learning course. Thirdly, gamification seemed to be preferable in f2f rather than virtual learning. Finally, the level of engagement fluctuated and reduced at the final stage of the research, which needs further exploration.

Limitations and Implications

The research showed that the undergraduates were highly engaged in the gamified blended learning and appreciated the effectiveness of gamification. Therefore, the application of gamification during a blended course is possible to enhance learner engagement in all three dimensions: behavior, emotion, and cognition.

However, gamification system is usually complex and dynamic and a slight change could make a huge difference (Hunicke et al, 2004). As *Classcraft* is a gamified platform with diverse game features, further research could be done to explore learners' preferences with different game mechanics.

The current result was limited by the small sample size and the specific time and context. This was a purely qualitative study to explore learners' perspectives and reflections

on their experiences. Therefore, the exploratory nature of qualitative data often leads to the incapacity to generalize to other contexts. Additionally, the result showed that the engagement level was not always stable. Hence, another research with quantitative measurement can be employed to examine the trends and changes in the level of engagement. For example, an engagement checklist could be suitable to explore more aspects and expressions of engagement. The checklist could be employed during observation sessions, or a self-report instrument could be used with a larger number of participants. Furthermore, experimental design is also recommended to confirm the effectiveness of gamification in a long-term blended program.

Conclusion

Overall, the use of gamification was proved to be beneficial to maintain and develop learner engagement in this research. Three categories of engagement (behavioral, emotional, and cognitive) were examined through a qualitative design and the results were strongly positive and consistent with emotional engagement. Referring to behavioral engagement, participation, effort-making, and devotion to learning were confirmed. Cognitive engagement witnessed the evidence of a social connection, concentration, and investment. However, the expression of cognitive engagement was not diverse and rich in this study. The findings could contribute to previous literature with these explorations from learners' perspectives.

Besides some obvious success in employing gamification, learners still struggled with the regulations of games, the lack of confidence in a competitive environment, the sense of isolation in the e-learning process, and the reduction of motivation in the few last weeks. Further studies could find other alternatives to overcome these challenges. As this was a qualitative research in a private university, the result should not be generalized to other contexts. Further studies would be done to confirm the advantages of gamified blended course.

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