

# **A QUALITATIVE INQUIRY CONCERNING GAMIFICATION OF LANGUAGE LEARNING: A CASE STUDY ON THAI UNDERGRADUATE HOSPITALITY MANAGEMENT STUDENTS**

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## **ABSTRACT**

Gamification of learning in higher education has been used as an educational tool to motivate and engage students. Despite its positive impacts demonstrated in the existing body of knowledge, some adversaries are concerned with the decline of learners' intrinsic motivation and becoming independent of extrinsic rewards. This research aims to design a user-centered and meaningful gamification framework for students who are explicitly learning a second language to resolve these adversaries. The empirical data for this study was collected through a focus group discussion. It was conducted to obtain students' learning factors that would contribute to user-centered learning. Based on the focus group outcome, a gamification course using a learning management system with embedded gamification features will be best suited for these specific students. The affordances used in this study are rewards, levels, badges, and points. The practical implications of this study are to gain a more in-depth understanding of the students' motivations in language learning, which is crucial in creating a meaningful user-centered game design.

**KEYWORDS:** Language Learning, Gamification, Hospitality Education, Student Engagement

## **1 INTRODUCTION**

Gamification is defined as applying game design principles in non-gaming contexts (Deterding et al., 2011; Manzano-León et al., 2021). It aims to stimulate human motivation and performance (Sailer et al., 2017) and the most common application of this concept is in formal education (Hamari et al., 2014; Almeida & Simoes, 2019). The learning outcomes of gamification are mostly positive in terms of increased motivation and engagement; this is according to the systematic literature review of empirical studies on gamification's efficacy (Hamari et al., 2014). However, despite the positive results, there are a few adverse outcomes relating to the gamification. A gamified product or service with a rewards feature may harm intrinsic motivation, not enhance it (Dahlstrøm, 2017). In addition, it can reduce the internal motivation the user has to take part in the activity, as it replaces internal motivation with external motivation (Nicholson, 2012). Gamification's success greatly relies on the context in which it is being implemented and its users (Hamari et al., 2014).

According to Chen et al. (2015), there are only a few qualitative gamification studies, indicating that current studies in gamification give more attention to data usage and interfering with user behavior, rather than paying enough attention to the actual players' experiences. Thus, qualitative data was collected through a focus group discussion to understand students' learning factors and perceptions in a gamified learning environment. This study aims to design a language learning course based on the students' learning factors to make it user-centric, then choose game elements that would intrinsically motivate students in learning a second language. Moreover, it is the objective of the study to design meaningful conceptual learning gamification to encourage students to learn a second language.

## **2 LITERATURE REVIEW**

### **2.1 Gamification of Learning**

Gamification is the application of game design principles in non-gaming contexts (Deterding et al., 2011; Manzano-León et al., 2021). It aims to foster human motivation and performance regarding a given activity (Sailer et al., 2017). According to Hamari et al. (2014), gamification provides positive effects. However, the results are much dependent on the implementation of gamification and the users using it.

Gamification of learning was the most common context for implementations (Hamari et al., 2014). It is not surprising that gamification is applied to education and learning since retaining engagement and motivation among students is a constant challenge. Based on Subhash and Cudney's (2018) selected articles related to gamification in education from a systematic search of databases, gamification's learning outcomes are mostly positive, for example, in terms of increased motivation and engagement in the learning tasks and enjoyment of them.

Despite the positive learning outcomes, their studies suggested that there are some pitfalls in gamification. Based on research conducted by Domínguez et al. (2013), despite the students' better scores in practical assignments and an overall score, the same sets of students performed poorly on written assignments and participated less in activities. The same study also suggested that the cognitive impact of gamification on students is not very significant. A gamified product

or service with a rewards feature may harm intrinsic motivation, not enhance it (Dahlstrøm, 2017). In addition, it can reduce the internal motivation the user has to take part in the activity, as it replaces internal motivation with external motivation (Nicholson, 2012).

## 2.2 Game Elements or Affordances Applied in Learning

Game elements or affordances are the game design principles that are applied in the non-gaming context. According to the systematic review on gamification of learning (Subhash & Cudney, 2018), points, badges, and leaderboards are the most frequently used gamification elements. These elements can be seen in a different form; for example, points can be in the form of a bonus, something earned, or experience points, while badges can be in the form of trophies and rewards. According to the same systematic review, the most significant benefits of gamification in higher education are improved student attitude, engagement, and performance. Engagement, motivation, and enjoyment among students are widely cited as benefits of gamification of learning. Table 1 shows an overview of game elements and benefits according to some recent studies on gamification.

Table 1. Game Elements and its Benefits

<b>Affordances</b>	<b>Benefits</b>
<b>Points</b>	Motivation and performance (Villagrasa et al., 2014)
	Motivation, interest, and knowledge (Markopoulos et al., 2015)
	Improved student performance (Strmečki et al., 2015)
	Engagement and retention (Kuo & Chuang, 2016)
	Engagement, more effort, and higher quality work (Hew et al., 2016)
	Improved attitude and learning outcomes (Yildirim, 2017)
	Motivate to participate and engage in learning (Poondej & Lerdpornkulrat, 2016)
	Increased competition (Sánchez-Martín et al., 2017)
	Improved student performance (De-Marcos et al., 2017)
	Motivation, engagement, enjoyment, and perceived learning (Stansbury & Earnest, 2016)
	Performance, engagement, and attendance (Dias, 2017)
	Engagement and enjoyment (Xu et al., 2017)
<b>Badges</b>	Motivation and performance (Villagrasa et al., 2014)
	Improved student performance (Strmečki et al., 2015)
	Engagement, more effort, and higher quality work (Hew et al., 2016)
	Improved attitude and learning outcomes (Yildirim, 2017)

<b>Affordances</b>	<b>Benefits</b>
	Motivate to participate and engage in learning (Poondej & Lerdpornkulrat, 2016)
	Improved student performance (De-Marcos et al., 2017)
	Psychological satisfaction (Sailer et al., 2017)
	Engagement, performance, confidence, motivation, and academic effort (Çakıroğlu et al., 2017)
	Performance, engagement, and attendance (Dias, 2017)
<b>Leaderboard</b>	Improved student performance (Strmečki et al., 2015)
	Enjoyment, motivation, engagement, and perceived learning (Leaning, 2015)
	Engagement and retention (Kuo & Chuang, 2016)
	Engagement, more effort, and higher quality work (Hew et al., 2016)
	Improved attitude and learning outcomes (Yildirim, 2017)
	Motivate to participate and engage in learning (Poondej & Lerdpornkulrat, 2016)
	Improved student performance (De-Marcos et al., 2017)
	Psychological satisfaction (Sailer et al., 2017)
	Engagement, performance, confidence, motivation, and academic effort (Çakıroğlu et al., 2017)
	Performance, engagement, and attendance (Dias, 2017)
<b>Levels</b>	Motivation, interest, and knowledge (Markopoulos et al., 2015)
	Improved student performance (Strmečki et al., 2015)
	Engagement and retention (Kuo & Chuang, 2016)
	Engagement (Giannetto et al., 2013)
<b>Rewards</b>	Engagement and retention (Kuo & Chuang, 2016)
	Improved learning outcomes (Buckley & Doyle, 2014)
	Engagement, performance, confidence, motivation, and academic effort (Çakıroğlu et al., 2017)
<b>Feedback</b>	Improved student performance (Strmečki et al., 2015)
	Motivation, confidence, engagement, and attention (Morillas Barrio et al., 2016)
	Improved learning outcomes (Buckley & Doyle, 2014)

<b>Affordances</b>	<b>Benefits</b>
	Motivation, engagement, enjoyment, and perceived learning (Stansbury & Earnest, 2016)
<b>Competition</b>	Improved learning outcomes (Buckley & Doyle, 2014)
<b>Teamwork</b>	Motivation, interest, and knowledge (Markopoulos et al., 2015)
	Psychological satisfaction (Sailer et al., 2017)
	Improved attitude and learning outcomes (Yildirim, 2017)
<b>Role Play</b>	Motivation, engagement, enjoyment, and perceived learning (Stansbury & Earnest, 2016)

According to Hamari et al. (2014), people interact with gamified systems differently for many different reasons, resulting in variation in the experiences created by these affordances. For example, a study conducted by Jia et al. (2016) claimed that individual personalities have different perceived preferences on motivational affordances: the results showed that extroverts tended to be motivated by points, levels, and leaderboards, while people with high levels of imagination/openness were less likely to be motivated by avatars. Research done by Xu et al. (2017) observed that bashful and distracted students were most likely to be engaged in the gamified class compared to the active students. In short, a similar outcome is not guaranteed for all students participating in a gamified learning environment.

Based on these studies, gamification of learning has positive outcomes such as increased motivation, engagement, and enjoyment (Hamari et al., 2014; Subhash & Cudney, 2018). However, some gamification elements can decrease intrinsic motivation (Deci et al., 2001; Nicholson, 2012; Dahlstrøm, 2017), which is the only consistent predictor of academic achievement across different school contexts and cultures (Taylor et al., 2014). With the lack of motivation and desire to reach their overall potential to learn a second language, learners show minimal effort in developing second language skills. These drawbacks favorably impact second language learning, wherein we want students to learn, practice, and retain second language skills individually.

According to a study conducted by Geelan et al., (2015), the learning style of individual students also plays a positive role in maintaining continued engagement. To apply gamification in language learning, we focus on the appropriate game elements and affordances according to our target players. We cannot simply use all these elements because previous studies claiming effective gamification have different player characteristics. The effectiveness of gamification varies depending on the players' characteristics (Jia et al., 2016; Xu et al., 2017).

### **2.3 Gamification in Learning Management Systems (Moodle)**

Many institutions are using LMS to support the quality of education. It is not just a communication channel between teachers and students, but can also be a gamification tool.

Moodle, for example, is the top open-source tool for Learning Management Systems, according to Pappas (2020). Moodle has been used in a few research studies to implement game elements in the gamification of learning (Poondej & Lerdpornkulrat, 2019; Sitra et al., 2017). Game elements such as points, badges, and leaderboards were the most commonly used elements (Poondej & Lerdpornkulrat, 2019).

### **3 METHODOLOGY**

This research is designed to identify and understand meaningful and effective gamification techniques. The first step is to understand students' learning factors to gain insight on what motivates them and to understand their intrinsic motivators. As suggested in the case study by Geelan et al. (2015), improving the understanding of learning preferences could maximize the educational benefits of learning experience through gamification. From a gaming perspective, this process is a way to understand the students or the players. The gamified language learning design, or the game, will depend on the players' learning factors. In this way, the game will be more meaningful to the players.

#### **3.1 Sample and Setting**

A focus group is a small, structured group with selected participants usually led by a moderator. It aims to gather multiple views and attitudes and often require complex negotiation of the on-going interaction process among participants (Litosseliti, 2003). In this study, the focus group will be able to understand students' learning factors and motivation in learning English as a second language. It is a way to gather first-hand information from the participants or potential players. The data was collected from 27 undergraduate students that were enrolled as full-time degree students at the time of sampling. The participants studied a business major at a large government-run university in southern Thailand. Moreover, the participating students were enrolled in a compulsory ESL course that is part of their degree curriculum.

#### **3.2 Procedure and Data Collection**

The empirical data for this study was collected through one focus group discussion. The discussion was conducted during the students' regular classroom time and lasted approximately 45 minutes. The focus group discussion was guided by open-ended semi-structured questions that aim to investigate the students' experiences in ESL learning. During the focus group, a moderator facilitated the discussion and encouraged involvement from all the participants. Furthermore, a research assistant was present to take notes and record audio. At the end of the discussion, a questionnaire was distributed to gather socio-demographic information about the participants.

#### **3.3 Data Analysis**

After the data collection, the recordings were transcribed before doing the analysis. The main ideas for each question were noted and reviewed. The main recurring ideas were critically analyzed to identify themes as presented in the following sections of this paper. The second step was to gather and understand the game design elements or affordances that can be implemented in designing gamification in language learning. This process aimed to classify

which affordances would be motivators for our players. In this process, the focus group's results were analyzed and some students' learning factors were matched to the affordances. This step was to eliminate unnecessary affordances and choose appropriate affordances that could motivate the students.

After gathering information on the players' learning factors and classifying the appropriate affordances, the game's formulation took place and all affordances listed as motivators were applied. For this research, a learning management system (LMS), specifically Moodle, created the gamified language learning activity suitable for the players. Moodle offers multiple features convenient to apply gamification in the learning experience. Frequently used affordances such as points, badges, and leaderboard (Subhash & Cudney, 2018) can be applied on Moodle.

## **4 RESULTS**

### **4.1 Understanding Students' Learning Factors and Classifying Game Design Elements**

#### *4.1.1 Thai Students Motivation*

Students from this faculty learn the English language mainly from the subject and course offerings from their secondary schools and the university. They mentioned a few hours of self-study and only a few enrolled in private language schools. Hollywood films, English TV shows, and TED talks were mentioned as their secondary sources of learning English. A few students said that some language learning mobile applications and websites were also used in learning English. Students have been studying the English language for 16-20 years.

When they were asked what motivated them to study English, 70% answered to graduate and please their parents. Students from this university are not eligible to graduate if their TOEIC score is below 630 points. 25% of students will settle on getting 630 points to graduate, while the rest aimed to get higher than that.

#### *4.1.2 Learning Methods and Effectiveness*

When it comes to language learning methods and techniques, the students mentioned that classroom composition and size could influence their motivation. Students prefer to be in a group with the same level of English skills as their own. A group with varied levels causes embarrassment to some students, either feeling that others look at them as superior or fearing making mistakes. Size also matters; students prefer a relatively smaller group, around 5-20 students per class, when it comes to language learning. They like to get more constructive and hands-on feedback from their teachers. Students mentioned that negative feedback is acceptable if it comes from someone with authority and expertise and is delivered in a non-embarrassing way.

Students had consensus answers regarding recognizing their English assessment accomplishments or group competition. While being recognized can boost motivation, they mentioned that announcing TOEIC accomplishments on social media, such as Facebook, is not encouraging but rather embarrassing. In addition, individual competition, such as getting a reward for getting the highest mark, is also not encouraging. 81% of the students say that they

do not want to compete with others and 96% say they would rather compete with their old self, aiming for self-improvement and checking their learning progress.

When it comes to the effectiveness of teaching methods and classroom tools, interactive media or whiteboards such as SMART Technologies are most effective, as well as real-life simulation or role-playing. 78% mentioned that interactive classrooms with supplementary mobile applications or software are effective means by which to study and, at the same time, help them engage with, attend, and participate in class. 93% say role-playing or real-life simulations let them practice their English skills. They believe that practical application is better than having academic tasks such as grammar lessons, seat works, and quizzes. Other means such as mobile learning apps, quizzes on LMS (56%), and video tutorials (70%) are also considered useful learning tools. 93% of students mentioned fun classroom games like Kahoot!, a game-based learning platform; they said that it is engaging and exciting while they are playing. Still, it does not have a long-term effect on learning.

#### 4.2 Classifying Game Design Elements According to the Students’ Learning Factors

The second step is to gather and understand the game design elements or affordances that can be implemented in designing gamification in learning and education. Game elements are used to increase the learner’s motivation. Table 2 shows the summary of the affordances that can be a motivator or not a motivator for the players.

Table 2. Affordances that can be a motivator or not a motivator for the players

<b>Affordances</b>	<b>Motivator</b>	<b>Not a Motivator</b>
<b>Earning Points</b>	Points that can be converted to grades	Points that cannot be converted to anything
<b>Badges/Medals</b>	Something to show off to their parents	If it is announced in any form of social media
<b>Levels</b>	For self-improvement	Public announcement or leaderboard
<b>Rewards</b>	Money and grades (to graduate)	-
<b>Competition</b>	Competition with themselves	Competition against others

Referring to the information gathered from the focus group, the following game design elements will be used in this research: rewards, levels, badges, and points. Competition with oneself can be incorporated with the level and badge affordances. These game design elements were indirectly included in the focus group discussion and were concluded as motivators for our respondents, Thai undergraduate hospitality management students.

## **5 DISCUSSION**

### **5.1 Designing a Gamified Language Learning**

Before applying the affordances in a language learning activity in Moodle, adequate planning and development should be taken into consideration. The badge is the most common game element used in Moodle (Poondej & Lerdpornkulrat, 2019). To incorporate points and levels, a plugin is needed to showcase these affordances. The Level Up! plugin for Moodle can present students with their current levels based on points they earned, praise their progress once they move on to the next level and unlock content that requires a certain level to access it, and other customizations to make it more engaging and exciting (“Level up! Gamification for Moodle,” n.d.).

### **5.2 Setting up Game Affordances on Moodle**

The Level up! plugin will play a big part in designing a gamified Moodle course. One of its features is to automatically attribute points to students for their actions. It can also report the students’ levels to the students and the teacher. As part of the planning and development, the teacher will set certain points for specific actions in the system and to achieve the next levels.

Activities set up in Moodle can be in the form of a lesson, forum, or quiz. Teachers can allocate points for participation in lessons, answering and contributing to forums, and achieving specific scores in quizzes. Points can also be rewarded for simple tasks such as reading in advance, asking questions, or referencing an external resource. This way, students can be more engaged in lessons and motivated to learn, knowing their simple actions can be rewarded. Using points as a game element can increase the engagement and motivation of students in comparison to traditional methods (Villagrasa et al., 2014; Markopoulos et al., 2015; Kuo & Chuang, 2016; Hew et al., 2016; Stansbury & Earnest, 2016; Dias, 2017; Xu et al., 2017; Poondej & Lerdpornkulrat, 2016).

For the levels, the teacher can set up the first few levels to be easily achieved; thus, students will be engaged and motivated upon seeing their levels improve. The points needed for leveling up should gradually increase to challenge students to perform better and encourage them to do more tasks to earn points. Previous studies on gamification and game-based learning mentioned that this game element could motivate students (Markopoulos et al., 2015), improve students’ performance (Strmečki et al., 2015), and increase engagement (Kuo & Chuang, 2016; Giannetto et al., 2013).

Badges should be meaningful to players, something that is not earned too fast (TechnologyAdvice, 2014). To do so, badges should be designed to be awarded after the accomplishment of certain cumulative tasks, such as completing a lesson and getting a high score for the lesson’s quiz, or it can be about perseverance by taking practice tests or lessons every day for 30 consecutive days or more. The awarding of badges can be set up automatically by the system by establishing certain criteria to be accomplished in a given time. It can also be granted by the teacher if necessary. Badges can also have an equivalent point to be earned at the same time as the badge is acquired, so that students can level up as well. Badges can motivate, engage, and improve students’ attitudes and performances in learning (Poondej &

Lerdpornkulrat, 2016; Villagrasa et al., 2014; Strmečki et al., 2015; Hew et al., 2016; Yildirim, 2017; De-Marcos et al., 2017; Çakıroğlu et al., 2017; Dias, 2017)

Rewards can boost engagement (Kuo & Chuang, 2016), improve learning outcomes (Buckley & Doyle, 2014), and increase motivation, confidence, and academic effort (Çakıroğlu et al., 2017). When it comes to rewards, teachers can reward students with badges for particular excellence achieved throughout the course. This can be in the form of a badge or points. Other means of rewards can be in the form of virtual money, which can be used to unlock specific tasks or in exchange for skipping a day for review. The rewards given in this game design should not be too attractive for the students, as this can result in them depending on external rewards (Deci et al., 2001). However, all these are extrinsic rewards that may motivate students in a short period.

This gamified language learning course's overall design was based on the students' input from the focus group. The plan is to boost self-development and let students see their progress over time. It encourages students to compete with their old self and challenge oneself to perform better. Based on the previous gamification of learning research studies, each affordance and its implementation mentioned were all aiming towards a more meaningful learning gamification design for students to be more engaged and intrinsically motivated to learn a second language.

## **6 CONCLUSION**

As Nicholson (2012) suggested, gamification approaches decrease intrinsic motivation. Thus, incorporating gamification elements without considering the players' needs and goals will lead to ineffective learning gamification. The combination of user-centered game design elements into a non-game context can lead to meaningful gamification. User-centered meaningful gamification will result in longer-term and deeper engagement between users, non-game activities, and supporting organizations (Nicholson, 2012).

This research has given much consideration to Nicholson's studies to reduce the inefficient gamification methods assumed to have positive results at most times. Understanding the students' motivations in language learning was crucial to creating a meaningful user-centered game design. It was a necessary step to assess the game elements to be used in gamified learning through the learner's experience, such as points, badges, and leaderboard activities. When it comes to designing gamified learning, the main objective in applying the game elements is to boost self-improvement and progression in learning a language, which is considered an intrinsic motivation for students.

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## CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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