



Why To Use Gamification in Higher Education?

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Abstract

Gamification is becoming an increasingly popular concept in education. Today's digital natives have grown up with computer and video games, and they look for excitement. The fast pace of many games fits their short attention spans. Nowadays teachers face major problems around students motivation and engagement. Gamification or the application of game elements into non-game settings provides an opportunity to help teachers solve these difficulties. The 21st century highly values critical thinking, collaboration, creativity, and communication. However, in a google friendly world, creating collaborative relationships and fostering meaningful communication is a demanding task. Preparing students for the future also requires high level of their engagement. In order to recognize their interests, and discover their learning aptitudes and attitudes, students should be actively involved in the learning process. This is why making use of rules and principles of a game to enhance the learning experience in higher education seems to be a reasonable option. Game mechanics, that is, rule based simulations, are employed to encourage students to explore the boundaries of their possibilities. At the same time, students are provided with valuable feedback in a safe environment. In other words, gamification of learning experience seems to be a powerful tool for preparing university students for the requirements of the contemporary world.

1. Introduction

Gamification is often defined as the concept of applying game mechanics to non-game situations. It primarily refers to a process of making systems, services and activities more enjoyable and motivating. Considering the relevance of gaming in higher education can take one of two admittedly overlapping paths. In the first, gaming is deemed significant as a conceptual practice with outcomes that enable students to gain skills needed specifically in an information-based culture. The second path finds relevance in specific gaming content, helping students learn material in an innovative way.[1]

Gamification commonly employs game design elements in non-game situations attempting to improve user engagement, productivity, flow, learning, recruitment and evaluation. The use of game thinking and game mechanics can engage users to solve problems. [2]

Gamification is not about developing games, but rather it is about using gaming attributes to drive engagement, strengthen skills, or behaviour changes. [3] Learning is not made into a game, the features of games (curiosity, collecting, exploring) which entice players to engage are used to draw in learners.

As the 21st century highly values, creativity, critical thinking, communication and collaboration, applying gamification in education seems to be a necessary and reasonable task.

Preparing students for their future also requires high level of their engagement. In order to recognize their interest and discover their learning attitudes and aptitudes, students should be actively involved in their learning process. This is why making use of principles and rules of games to enhance the learning experience seems to be reasonable option.

2. Benefits of Gamification in Education

As gamification in education has become increasingly popular it seems useful to discuss its benefits. It offers a wide range of advantages for students and can help to make their learning experience enjoyable and effective, but on the other hand keeping up with technogeek students can be a real fear for today's teachers.

The following are the major benefits of gamification in education:



- **Increases student engagement.** Gamification hold students' attention and motivate them, given that they are striving to reach a goal. When students feel positive about their learning process and know that they are going to be rewarded in some way for their efforts, then they stop becoming passive and turn into active participants. By doing it, they are able to absorb the information effectively and store it in their long-term memory, because the knowledge itself is linked to a positive and liked experience they are provided through gamification.
- **Makes learning fun and interactive.** Learning is more effective if students are excited about what they are learning.
- **Provides instant feedback.** It provides instant feedback so that learners know what they know or what they should know. According to Brown, learner engagement is driven by accelerated feedback. Games provide immediate and effective feedback in the form of scores, thereby leading to better engagement and motivation. [4]
- **Prompting behavioral change.** Scores, badges and leaderboards would surely make training awesome. However, gamification is about a lot more than just those surface level benefits. Gamification can drive strong behavioral change especially when combined with the scientific principles of repeated retrieval and spaced repetition.
- **Reinforces learning.** Games are ideal tools to reinforce learning. When the learner attempts a quiz and gives an answer, he can be given a chance to go through the content and reinforce what he has learnt. This can be done in a playful and effective manner through game-based interactivities.
- **Can be applied for most learning needs.** Gamification can be used to fulfill most learning needs.
- **Ensures better comprehension.** Many learners face difficulty in understanding and remembering complex content. Games can be used to overcome this problem as they help learners learn and recall difficult content. They help people to stay focused on important parts of the content by specifying learning objectives clearly. Games are very useful to deliver process training and impart trouble-shooting skills.
- **Helps increase the time spent on learning.** Learners are likely to spend more time on learning if it is more engaging, entertaining and exciting. Games increase the chances of the learners returning to the course on a regular basis because they are enjoyable and fun-filled.
- **Anytime - anywhere learning.** Learners are never far from a game environment, Mobile devices are always at hand. Knowledge is everywhere; learners need only time and freedom to find the knowledge they need and that is suitable to their learning style.

3. Case Study on a Gamified Online Language Pedagogy Course

The study outlined here is to present the experiences based on an gamified online language pedagogy (OLP) course. The participants of the OLP course were born before the existence of digital technology and adopted it to some extent later in their life, while their students are all digital natives who have been interacting with digital technology from the get-to go. This is why it is understandable that digital immigrant teachers using technology often have fears, they know that their students, who are digital natives, are better in using technology. The objective of the OLP course was to convince language teachers to leave their fears at the door. Technology is not just the theme of the course, but participants are required to interact and collaborate during their studies as they expect it from their students: experiencing learning by doing.

Participants are supported to experience social interaction, content sharing, reflecting on others' ideas and work, collaboration, peer-support, teamwork or competition and being flexible in the gamified learning environment.

During the course they are required to visit the 'Plenary Forum' to discuss pedagogic issues or questions by starting and commenting on topics that arise during their studies to promote online



interaction and systematic thinking. They can also join 'Chat' for sharing their thoughts and ideas on a given question. For each unit participants are required to summarize their thoughts in the 'Reflective Journal' which is an activity designed to think reflectively and systemically by writing an essay on the main theme of the given Module. During each Module participants gain scores and they reach different levels. The OLP course was developed by applying various activities in order to create an effective gamified online learning environment based on social constructivism theory.

3.1. Applying Gamification Elements

The gamification process in education comes down to the elements that are applied to the learning program. As mentioned earlier, gamification is the addition of game-like elements, also called game mechanics, in non-game settings. Game mechanics can be classified as self-elements or social elements. Self-elements are points, achievement badges, levels, or simply time restrictions. These elements get students to focus on competing with themselves and recognizing self-achievement. Social-elements on the other hand, are interactive competition or cooperation. These elements put the students in a community with other students, and their progress and achievements are made public in the group.

The following game mechanics were taken into consideration during designing the OLP course:

- **Cascading Information Theory:** Breaking up information into bits so that each bit can be effectively learned, not getting all the information at once.
- **Achievements:** It is where participants have accomplished something, and they know it. These may be made visible in a variety of ways.
- **Community Collaboration:** Working together to solve a problem or do a task. In traditional education it is called group work, in game theory 'socializers' are especially motivated by this. Women are more likely to be socializers and motivated by collaboration than men.
- **Points, scores:** Giving numerical value for actions.
- **Loss Aversion:** Not getting a reward, but avoiding punishment.
- **Behavioral Momentum:** The tendency of people who are doing something to keep doing it.
- **Countdown:** Having only a certain amount of time to do something. As the deadline approaches, there is more activity on the part of the students. The key is making sure that everyone can succeed sometime.
- **Levels:** Gaining more points leads to more or different rewards.
- **Progression:** Gradual success, typically through completing a series of tasks, the key is that progress is visual in some way.
- **Ownership:** The feeling that you control something. Having students to publish their work for the others can give this sense, as they get more autonomy in choosing topics and tasks to share with the others.
- **Productivity:** The idea that people like working hard and being productive.
- **Discovery and Exploration:** People like certain kinds of surprises. Some learners are especially motivated by discovery.
- **Challenges:** Overcoming obstacles, either alone or in a team.
- **Virality:** A game or task that works better with more people.

4. The Attitude Survey



Participants of the course were asked to answer a questionnaire of 10 items designed to evaluate their attitude towards the learning tool and their satisfaction level. The form used was a questionnaire based on a five-point Likert scale with all the sentences scored in a positive scale. The survey was answered anonymously. 54 students claimed to have followed the gamified OLP course and provided feedback. The average for these questions is 3.92 on the five-point scale, indicating that the students' attitude to this experience was positive. The highest rated statements are items 3 and 4 suggesting that the activities were successfully designed according to students' perception. The ratings of items 2, 5 and 9 are especially significant because they provide a general positive estimation of students' motivation and students' attitude towards learning with this tool, not only during the learning experience but also in the future.

Concerning motivation students were asked if they found the gamified activities more motivating, if they found the traditional activities more motivating or if they found the gamified activities neither more nor less motivating than the traditional ones. As a result 42 students (77%) found the gamified activities more motivating, 7 students (12%) found the traditional activities more motivating and 5 students (11%) felt no differences in their motivation. Participants perceived that knowledge was gained and they were satisfied with the course.

5. Conclusion

Gamification does not imply creating a game. It can make education fun and engaging. It helps students gain motivation towards studying, and because of the positive feedback they get pushed forwards and become more interested and stimulated to learn. Gamification can constitute a powerful boost to determine them to study more.

In a traditional learning environment, a student's motivation to learn effectively can be hindered due to a number of reasons. However, with the successful application of suitable gamification techniques, the delivery of the information can transform a simple or task into an addictive learning process for the students.

While the underlying objective of applying gamification to any education program is to prompt some type of behavioural change in the student, many teachers specifically look to tackle the issue of student motivation and engagement during their learning process.

For students, gamification serves the purpose of minimising negative emotions that they usually encounter in traditional forms of education. It lets them approach knowledge and skills, using the learn-by-failure technique that is popular in game-like environments, without the embarrassment factor that usually forms a part of classroom education. Teachers on their part can efficiently achieve their set objectives and use currency-based tracking mechanisms to get feedback on their students' progress.

Though it is not easy to successfully implement gamification in education, a mindful approach using the steps laid out in this paper, can increase the probability of creating an effective education gamification strategy. It is also recommended that teachers remember that gamifying education may require long periods of fine-tuning and most definitely should not replace the original value of human teaching. Gamification in education can be a powerful strategy when implemented properly, as it can enhance an education program, and achieve learning objectives by influencing the behaviour of students.

References

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