

GAMIFICATION IN EDUCATION: HOW TO MAKE LEARNING FUN

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Gamification, a process of applying game-related principles to non-game contexts, is an emerging trend in language education that adds meaning and engagement to a student's classroom experience. The goal of the paper is to review what makes gamification different from game-based learning, to study game elements as well as effects of exploiting game thinking in educational contexts.

Keywords: gamification, education, learning, classroom, engagement, motivation

Gamification can be defined as a process of applying game-related principles to non-game contexts. It has turned out to be a successful strategy in engaging people and motivating them to change behaviours, develop skills or solve problems.

Gamification in a business context has been applied to both customer engagement and employee performance. It appeared as a trend in marketing in the early XX century when **Kellogg Company**, an American producer of cereals and convenience foods, offered its customers to get a free gift on condition they returned Kellogg's two empty boxes. It was the first 'loyalty scheme' aimed at attracting consumers. On the other hand gamification can be used by an organization as an important means to engage its employees at a deeper level. In 1929 the newspaper '**Pravda**' published an agreement on socialist emulation launched by workers from 'Krasny Vyborzhets', a Metallurgic Plant located in Leningrad (Saint Petersburg). Thus, in the early Soviet era game elements were used by the USSR leaders as a substitute for monetary incentives for performing at work [6].

Recent years have seen rapid adoption of two gamification strategies - to attract customers and to motivate employees change behaviours - in business, marketing, corporate management, etc.

That term 'gamification' was coined in 2002 by Nick Pelling, a British-born computer programmer and software developer, who tried to make the market understand the power of game mechanics when used in business environments [9].

A year later **Conundra**, a UK-based consultancy specializing in gamification, offered manufacturers to evolve their electronic devices into entertainment platforms. The company wasn't successful, but it opened a new trend which started to become used worldwide in various areas – from business to education [7].

Traditional classroom is often regarded as boring and ineffective by many students, which makes teachers look for new approaches and techniques to make learning enjoyable and engaging, reinforcing not only knowledge but also such skills as communication and collaboration.

There is a tendency to mix up gamification and game-based learning. It is important to understand the difference between the two: although both have remarkable motivation power, benefiting from a person's natural desire to play and win, the former means making a game out of the classroom setting, whereas the latter implies using educational games to teach. To create an instructional game is difficult, time consuming and costly. But gamification means using game thinking and game design elements to improve learners' engagement and motivation.

There are three main ways of applying gamification to a learning environment:

- to adapt grades (instead of using grades and marks, there may be a hierarchy of experience points);
- to change the classroom language (completing an assignment may be referred to as "embarking on a quest");
- to modify the structure of the class (a teacher may organize students into teams/guilds/leagues that work together to complete tasks/quests and get points).

The most common way of gamifying a classroom is to incorporate a point system which implies awarding students for completing various tasks and, making different skill sets for the student to "master", keeping track of a leader board to see what points each student has. It all motivates students and demonstrates their learning progress without fear of failing a test and ruining their grade.

Gamification is based on four principles:

- motivation,
- rewards,
- status,
- collaboration [1].

Nowadays there are numerous examples of gamification applied to learning environments, both offline and online.

Quest to Learn (Q2L), a public school opened in New York City in 2009, offers a gamified curriculum in which learning happens through the motivation of play. Children play the role of designers, scientists, doctors and detectives. For example, math and science track, called "The Way Things Work", is a game in which students are to help a shrunken scientist navigate throughout the human body [8].

Another example of gamification in learning is **World of ClassCraft**, a program developed by a Canadian physics teacher and web designer Shawn Young that turns the classroom into a role-playing game, where students form teams and each becomes a character who interacts with peers, gaining levels and powering up. Their avatars have to complete certain learning assignments and behave well towards each other [2].

Online education sites, such as **codecademy.com** and **khanacademy.org** use game elements to better engage users: the more courses and lessons the users complete the more badges they earn [3; 5].

In 2012 Stanford University computer science professors Andrew Ng and Daphne Koller inspired by their experiences of courses online left Stanford to launch **Coursera**, a platform that

offers a variety of online courses on a wide range of subjects – engineering, sciences, humanities, medicine and many others. The first universities to offer content on the platform were Princeton, Stanford, the University of Michigan and the University of Pennsylvania. Now *Coursera* has more than 28 million registered users and more than 2,000 courses. Its courses last approximately four to ten weeks, and include one to two hours of video lectures a week, quizzes, weekly exercises, peer-graded assignments, and sometimes a final project or exam. On this platform Kevin Werbach, an associate professor at the University of Pennsylvania's Wharton School, offers his course "Gamification" which discusses how to see any situation through the lens of game design; it also teaches how to break down a game into its constituent elements and apply them to create gamified systems. The online course includes Professor Werbach's lectures, quizzes and peer-graded assignments. For every participant there is an Accomplishments page that shows all the points got for completing the tasks [4].

According to Kevin Werbach there is a six-step framework to apply to any gamification project:

- **DEFINE** the goals and objectives;
- **DELINEATE** gamers' behaviour;
- **DESCRIBE** players;
- **DEVISE** activity loops;
- **DON'T FORGET** about fun and rewards;
- **DEPLOY** appropriate tools [10].

The use of game design elements in non-game contexts is a fairly new and rapidly growing field. Gamification has the potential to improve learning, if it is well designed and used correctly. Therefore, more substantial empirical research is needed to investigate, in particular, the motivating effects of using single game elements in specific educational contexts and for particular types of learners. The effective classroom adoption of gamification implies both certain technological infrastructure coupled with an appropriate instructional framework.

The lack of proper technological support is one of the major obstacles for applying game elements to education. Thus, the development of software tools that can efficiently support gamification in various educational contexts would contribute to a larger scale adoption.

Last but not least, finding and sharing of new ways of applying gamification to learning contexts which should not be limited to rewards like achievements and badges but should be more meaningful to the students, is very important for increasing the application of this emerging technology in education.

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