

Online Gamification Learning During The COVID-19 Pandemic

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Abstract. The unexpected COVID-19 outbreak in 2019 pushed most schools to switch to online teaching styles, and students had to adapt to online learning at home. Using case analysis and literature review, this study is committed to sorting out and studying theoretical studies and case studies of gamified online learning in COVID-19 time. This study will trace the meaning of gamification and analyzes related literature and closely related theories such as Motivation Theory, Serious Games and Flow Theory, which have some internal correlation to gamification. English studies are taken as case studies to inspect the effects of online gamification learning during the worldwide COVID-19 pandemic. This study concludes that gamification learning, although has some shortcomings in class, can not only effectively promote students' classroom engagement and desire to learn behaviors, improve students' learning motivation and classroom interaction, but also shorten the social distance between teachers and students and alleviate people's depression and other bad mental emotions.

Keywords: Gamification; Online Learning; COVID-19; English Studies.

1. Introduction

With COVID-19, people have witnessed the transformation of yesterday's disruptions into today's lifeguards. The government has mandated schools adopt online courses to successfully curb the spread and legality of the new coronavirus. Students are required to study online from home with all the limitations that exist. People have to turn to online learning to keep learning from being interrupted. As its influence grows, the global COVID-19 outbreak has caused significant changes in most educational institutions, which has undoubtedly ushered in a new era of learning [1]. Thus, online gamification has been gaining popularity these years due to the study-from-home policy during the COVID-19 outbreak [2].

One strategy for addressing the issues with education brought on by COVID-19 is gamification, which has started to gain attention. There are quite a few definitions revolving around gamification. Gamification has been utilized for structuring children's education of all ages for a very long time. The theories of Piaget and Vygotsky provide an explanation for the effects that playing games has on the cognitive, behavioral, and mental development of children [3]. Some scholars propose that the games can fit with learners' perspectives, such as cognitivist sociocultural, or behaviorist perspectives. Learning exercises and information are combined with a variety of gamification components, including battles, gifts, certificates, memes, social networks, and unlocking actions [4]. Gamification has become increasingly popular in educational settings over the course of the past decade, where it is used to boost students' motivation and increase social interaction among them. Gamification mixes interaction, technology, and content to support online distance learning.

Online gamification has created an impact on children, adolescents, and adults' lifestyles around the world. The lack of adequate infrastructure has a few impacts. The use of widely obtainable online learning resources continues to be employed in the learning process, like Google Classroom, zoom meetings, and others that still need to be integrated. These platforms are necessary for many economically underdeveloped, underprivileged places to utilize the infrastructure. As a result, supporting learning infrastructure still requires improvement. Another problem that surfaced in the COVID-19 incident was the decline in the mental health of people that occurred during the lockdown policy, and it had side effects on how to motivate students to use the online learning system. There is no way to stop the pandemic damage. Therefore, initiatives to boost user acceptance and promote online learning are equally important.

This study focuses on case studies of gamification and gamified online learning during the COVID-19 pandemic. There has been much literature on online learning of gamification strategies, but research on gamification learning of specific subjects still needs to be done. This study aims to fill this gap and supplement gamification teaching and online learning with relevant educational psychology theories, and investigate the effects of online gamification learning in COVID-19 Time.

2. Conceptualizing Gamification

Researchers have not yet come to an agreement on what constitutes gamification and game-based learning (GBL), or how GBL and gamification differ from one another. Games involve a system or space with players, an abstraction of reality, a challenge, rules, and interaction, giving feedback, having a quantifiable outcome, and applying an emotional reaction [5]. The educational tool is modified to suit game aspects according to Kapp's perspective [6]. In a gamified classroom, the teacher will not give learning objectives, but rather a task or quest that the students will need to complete in order to make a progress and learn better. The application of gamification can generate a dynamic, safe learning environment that stimulates users, improves autonomy and flexibility, and offers regular opportunities for positive reinforcement. There is a diverse selection of games and approaches to gamification available. For instance, one of the simplest methods is the use of quizzes, which include gaming elements in instruction.

GBL is accessibility relates while discussing gamification. Teachers constantly strive diligently to provide engaging teaching activities for game-based learning that will keep the classroom vibrating with activity, and the academic process can be revitalized by including pleasant activities. People sometimes want to come up with new ways to advance education because the traditional classroom model is no longer effective in this age, especially during the lockdown. However, it has been demonstrated that learning through gaming can increase students' motivation to study, while simultaneously reducing their boredom with the material. Games can assist students in creating a productive learning environment where they can feel comfortable and are more motivated to learn, helping them to acquire the fundamental skills and competencies necessary in a range of fields in the era of information technology by means of online game-based learning. For instance, a large number of students have the misconception that mathematics is such a difficult subject, and some of them will lose their will to learn due to the repetitious and mundane nature of mathematical calculations. If teachers incorporate gaming tools in their classrooms to support the teaching of math, students will do better in this subject, because game-based learning can help increase mathematical comprehension and understanding of students.

There are some links and differences between gamification and GBL. Firstly, both can be applied to online learning and have positive effects on teaching. However, gamification involves making the entire process of learning into a game, whereas GBL involves incorporating a game into the process of learning. Due to the potential advantages of gamification, many researchers have been prompted to investigate its effectiveness in generating a range of learning outcomes [7]. Gamification is the practice of introducing features that are modeled after games into a traditional educational setting. The primary goals of gamification are to boost student motivation and engagement and to encourage desirable patterns of academic behavior. Whereas the carrying out of game-based learning is inseparable from fun and edutainment.

3. Theories of Gamification

There are plentiful theories of gamification, but for the sake of examining the literature on gamification in teaching and learning, this study will only explore the ideas related to this topic, including the following theories.

3.1. Motivation Theory

Motivation is the mechanism that initiates, controls, and maintains goal-oriented behavior. The forces that activate behavior are biological, emotional, social, and cognitive. Diversified research on motivation was broadly expanded into the multi-disciplinary study, including physiology, education, psychology, and social science. Extrinsic and intrinsic motivation dominate current approaches to player motivation. Gamification combines these two purposes by promoting engagement and fostering feelings of mastery, autonomy, and belonging while utilizing extrinsic rewards like levels, points, and badges [8]. The notions of motivation and engagement are typically discussed together because of their special connection. A productive educational experience is made possible by high levels of task engagement and robust motivation. Extrinsic and intrinsic motivation are two main types. Extrinsic motivations come from sources other than the individual and typically involve benefits from outside sources like prizes, cash, accolades, or social recognition. Intrinsic motivations are those that originate inside the personal, such as attempting to solve a puzzle solely for the satisfaction of doing so. Motivation, if properly used with the idea of gamification, will inspire more kinetic energy in students. Applications are increasingly using aspects of game design to influence users' behavior in settings other than games.

The concept of motivation refers to an abstract idea that is embodied in behavior and has the potential to result in beneficial cognitive effects such as enhanced learning and accomplishment. For instance, multiple studies found a connection between motivation and video game elements, where players purposefully immerse themselves in virtual challenges to attain fun and achievement, which are deeply ingrained human characteristics. People with intrinsic motivation would proactively study without external motivation. People would simultaneously learn because they fall in love with the subject. In other words, people proactively learn what they loved and there will be no outer factors or motivation needed [9].

3.2. Serious Games

Serious Games are an area that has been studied a lot in recent years, and its connotations tend not to include fun and interesting, even its term refers to games. This could be an adjustment in knowledge, perspective, physical prowess, cognitive prowess, and health. A prime example of using games to further a different goal is the Olympic Games. The ancient Olympics focused on physical fitness and military training, whereas the modern Olympics aims to combine culture, education, and sport. The ideal of Olympism is to create a way of life that is predicated on the gratification gained from work, the educative value of being a good example to others, taking responsibility for one's community, and adhering to fundamental ethical ideals that are universally applicable.

Serious games are non-entertainment games that serve a range of important goals, such as preventing human depression. They can also be utilized in industry, training, stimulation, or the field of education or healthcare [10]. Effective educational video games make an effort to create a positive atmosphere in order to encourage players to keep playing, which ultimately results in increased interest in the game itself and improved academic performance.

Through playing games, behaviors could potentially be changed because of the influences of the games. The purpose of the game is to motivate the player internally. Since serious games are entire games, they set themselves apart from casual games. Additionally, the employment of components of fun in settings other than video games is referred to as "gamification," which is its own distinct concept. One of the concrete examples is the mobile health tracking application. Specifically, when people are doing the exercises, data will visualize how much they exercise and how many calories they are burning. The mechanism of visualization would inspire people to do more exercises and stay healthy habit. This is done to take use of the potential that these games have.

3.3. Flow Theory in Gamification

The flow theory is an old concept that was first known because of Csikszentmihalyi [11]. Flow is a state of true immersion that makes one forget about time and self. There is a sense of utter immersion

and participation in the flow. For example, a person is said to be in a "flow" when he or she neglects to eat dinner while focused on something, such as binge-watching a TV series or surfing the Internet. Intrinsic motivation is mainly described by the flow theory, including the zone between anxiety and boredom through activity. Since the success of games is typically attributed to flow theory, the same may be said for the success of gamification. Gamification in learning environments is intriguing because it can help students learn while they are in a flow state.

According to this theory, gamification calls for clear and concise objectives, quick feedback, performance markers, an appropriate ratio of obstacles, student abilities, and the activity's perceived worth. When gamification is combined with the flow and a clear goal in learning, it often produces unexpected self-efficacy. For example, gamification and the broad availability of video or computer games are supposed to be putting more people in a flow state. As a result, the concept of being in a flow state could become more prevalent in relation to events that occur in everyday life if cooperative activities are gamified.

The flow has been studied in video games, mobile technologies, and game-based learning. Regarding gamification-related research, flow and motivation are always closely connected. People engage in the activities associated with the flow state for the purpose of the activities themselves, as opposed to doing so in order to achieve some external goal. And this quality of motivation is known as "intrinsic motivation". In other words, highly motivated individuals will likely experience high flow levels. The flow state and motivation can determine the quality of gamified learning process and affect the degree and state of students' commitment to learning.

4. Gamification in COVID-19 Time

According to the findings of a large number of researchers, the fact that many students still lack a strong inner drive and interest to learn presents a significant obstacle for numerous educational establishments and teachers in this era, and it is one of the biggest challenges that they are currently facing. If given the opportunity, a lot of students would rather spend their time playing computer games than just reading or finishing their learning tasks. The problem has been exacerbated by the COVID-19 pandemic, especially when students are forced to take online classes at home and lack monitoring.

Although there is some research on online teaching activities involving gamification, however, there are few types of research on gamification strategies related to online teaching of COVID-19, which need to be strengthened. The research under consideration only focuses on a few subject areas, such as chemistry, geography, computer science, biology, and so forth and language learning especially foreign language requires more attention. For instance, to ensure that students practice using ChemDraw (software designed for sketching molecules), Fontana developed a gamified activity for Chemistry study and ultimately increased students' wellness while enhancing their organic chemistry skills [12]. Similarly, to this, Kurnia al et gave gamified homework assignments to computer science freshmen to teach a suitable programming style [13]. The exercises encouraged students to finish their homework and select their method of problem-solving for each activity. In the study, through the research modeling, the fully functional system was built to monitor the students' physical activity. This system was website-based rather than mobile application based, and this model is a successful attempt for forming a gaming system to motivate the students. It turns out that most students preferred this exercise over the standard lecture format during COVID-19 time, because they thought it to be more instructive, enjoyable, and engaging.

For instance, research on gamification in the English-language education of youngsters in Hong Kong was carried out with the assistance of a gamified electronic learning system. It was discovered that both the student's ability to self-regulate their learning and their academic performance had improved. The scientific literature demonstrates, in addition, that gamified settings and activities for the acquisition of a second language can increase students' levels of involvement and motivation.

According to the reference, research shows that boys participate in gaming environments substantially more than girls do, particularly for learning spoken and written English [14].

5. English Studies as Case Study

Quizziz is gaining prominence as a game-based learning platform because of the COVID-19 epidemic. Being an e-learning app, Quizziz has an easy-to-use interface for learners [15]. Quizziz is a useful online game-based activity and assessment tool for English teachers and students. Its user-friendly interface makes creating and using quizzes easy. Teachers can create their own quizzes or distribute others' using unique codes and they are increasingly using quizzes. During synchronous online learning, the quiz can be a timed live competition or homework. Teachers and students can check their performance on the leaderboard during a live exam. Now teachers are expected to use gamified learning platforms solely for students' learning.

Language teachers have used popular traditional games in teaching English, such as word guessing games or scrabble. But Quizziz, Socrative, and iSpring Learn are a few examples of online platforms created specifically with gamification of knowledge in mind [16]. Despite this, gamification in education is seeing a renaissance as a result of the growing popularity of online education as a delivery method [2, 17]. The effects of COVID-19 improve the consideration and blending of gaming tools and online teaching activities, which also helps teachers ease the load of managing and conducting online instruction. Gamification learning in an online setting involves features that allow immediate feedback to be offered right after students finish, such as through badges scores, rewards, and ranking [18]. This friendly competition in learning is believed to facilitate higher engagement in education. In addition, by analyzing their performance in the game and giving insightful feedback, teachers can track and even evaluate their students' learning development. In addition, it is also acknowledged to offer explorative opportunities to students as they are free to try without pressure to avoid failure. These reasons explained above may account for why the interest in gamification of learning has been noted to increase in the literature, with studies confirming the positive influence of applying games to online learning backgrounds.

6. The Effect of Online Gamification Learning in COVID-19 Time

The impact of online gamification learning is very significant and extensive during the COVID-19 pandemic. In her research, Nataliia explored the ways in which gamified instruction encourages pupils to study the English language [3]. The study featured 120 college students as participants, and the findings demonstrated that games had been shown to be inspirational in aspects of the participant's mental, feelings, and sociocultural factors, and the results confirmed that this was the case. Many teachers embrace and acknowledge gamified learning, largely because it fosters students' enthusiasm and involvement in the learning process. Saovapa, for instance, investigated how digital games aided education throughout the COVID-19 pandemic [19]. The target demographic was comprised of 2,645 pupils attending private schools located in Thailand. The author claimed that digital games can change the learning process from challenging and dull to interesting and much easier to comprehend.

The COVID-19 pandemic has greatly limited people's social interaction, especially between teachers and students. Online gamification learning can increase students' social interaction with each other and engagement in classrooms. The idea of interpersonal interaction is one of the cornerstones of gamification due to the fact that one of the primary goals of the practice is to increase the students' health and to create social connections. One function of gamification is to maintain class spirit during a period of social withdrawal. And one of the most firsthand benefits of increased social interaction is that it can significantly reduce the depression and irritability of teachers and students caused by COVID-19, which indirectly promotes the smooth process of teaching and students' learning.

However, every coin has its pros and cons, and the gamification tool or strategy is no exception. Gamification has certain disadvantages and side effects in education. And one of the negative effects

of the gamification tool is that if the game is too complex, it will take a significant amount of time for instructors to study and prepare before each lesson. It cannot be ruled out that teachers cannot learn well, so it is not conducive to the normal development of teaching sometimes, especially during the COVID-19 pandemic. When teachers devote so much time and energy to interesting games to attract students' attention, it is arduous but fruitless. The result is that students neither obey the classroom discipline nor seriously participate in the classroom games.

7. Conclusion

This study's objective was to look over the literature on online gamification learning applications in COVID-19 and use English studies as examples to investigate. In the COVID-19 period, one definition of the term "gamification" is the implementation of game design components in settings that were not intended for the purpose of gameplay. Digital tools and gaming components can be used to encourage student participation and engagement. For example, Quizziz in English learning provides strong evidence that game features make learning more enjoyable and result in better learning outcomes. Gamification could be used in conjunction with conventional education techniques like online lectures, which can effectively shorten the social distance between students and teachers and guard a good psychological state during the COVID-19 pandemic. But gamification also has some disadvantages that need to be noticed in the classrooms, reminding teachers that online gamification teaching maybe faces some challenges about how to make the class lively and exciting and teachers themselves are not so weary at the same time.

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