

**Using Game Design Techniques (Gamification) in
Teaching and Learning Process: A Review**

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Abstract

This research describes the use of gamification in the teaching and learning process. This research is library research. The findings show that gamification improves students' motivation, engagement, and learning outcomes. Besides, gamification makes learning fun and interactive creates more desire to learn, allows seeing real-world applications, offers real-time feedback, encourages students to complete their learning activities, helps students focus and understand the material being studied, provides opportunities for students to compete, explore and excel in class, improve competitive traits, making learning addicted, etc. As educators, we may face students with multiple conditions in terms of motivation, interest, intelligence, group size, environment, family background, and so on. Therefore, game-based learning is designed to give positive impacts on students by incorporating game elements into training strategies. Of course, there are various steps in applying gamification in the learning process that can be applied in the classroom, including integrating educational video games into the curriculum, encouraging independent learning in the gamification of homework, gamification in scoring, implementing a broader class reward system, ensure that the lessons are interesting from the beginning, making gamification part of the evaluation, selecting gamification in the form of multiple choice, giving rewards like badges, etc. However, implementing gamification requires a system or platform to be successful. Therefore, we need concern about the main features such as game elements (point system, level system, badges system, and leaderboard system and templates.

Keywords: *game, gamification, teaching and learning process*

Abstrak

Penelitian ini mendeskripsikan penggunaan gamifikasi dalam proses belajar mengajar. penelitian ini adalah penelitian kepustakaan. Temuan menunjukkan bahwa gamifikasi meningkatkan motivasi, keterlibatan, dan hasil belajar siswa. Selain itu, gamifikasi membuat pembelajaran menyenangkan dan interaktif menciptakan lebih banyak keinginan untuk belajar, memungkinkan melihat aplikasi dunia nyata, menawarkan umpan balik secara real-time, mendorong siswa untuk menyelesaikan kegiatan belajarnya, membantu siswa fokus dan memahami materi yang dipelajari, memberikan kesempatan kepada siswa untuk berkompetisi, bereksplorasi dan berprestasi di kelas, meningkatkan sifat kompetitif, membuat ketagihan belajar, dll. Sebagai pendidik, kita mungkin menghadapi siswa dengan berbagai kondisi dalam hal motivasi, minat, kecerdasan, ukuran kelompok, lingkungan, latar belakang keluarga, dan sebagainya. Oleh karena itu, pembelajaran berbasis permainan dirancang untuk memberikan dampak positif bagi siswa dengan memasukkan unsur-unsur permainan ke dalam

strategi pelatihan. Tentunya terdapat berbagai langkah penerapan gamifikasi dalam proses pembelajaran yang dapat diterapkan di dalam kelas, antara lain dengan mengintegrasikan video game edukasi ke dalam kurikulum, mendorong belajar mandiri dalam gamifikasi pekerjaan rumah, gamifikasi dalam penilaian, menerapkan sistem reward kelas yang lebih luas. , pastikan pelajarannya menarik dari awal, jadikan gamifikasi bagian dari evaluasi, pilih gamifikasi dalam bentuk pilihan ganda, berikan reward seperti badge, dll. Namun implementasi gamifikasi membutuhkan sistem atau platform agar berhasil. Oleh karena itu, kita perlu memperhatikan fitur-fitur utama seperti elemen permainan (sistem poin, sistem level, sistem lencana, dan sistem serta template papan peringkat.

Kata kunci: permainan, gamifikasi, proses belajar mengajar

Introduction

As a result of the rapid growth of technology and communication in the current era of globalization, distance is no longer a barrier to obtaining knowledge from diverse regions of the world. Numerous technological advancements are readily available. With the progression of time and technology, humans can communicate through various tools or platforms. One of these is a form of recreation, such as playing online games, which significantly impacts the field of education. Internet-enabled laptops, tablets, and smartphones have allowed folks to play games together by speaking with someone on the opposite side of the globe in real-time (Yildiz et al., 2021). According to Figueiredo & Garcia-Peñalvo (2020), games have significant motivational power. They employ a variety of methods to entice individuals to engage with them solely for the enjoyment of playing and the possibility of winning. While gamification is gaining popularity in numerous parts of our society, its adoption in education is a relatively new phenomenon.

In recent years, gamification - the use of game design features in non-game contexts - has been rapidly adopted in numerous fields (Dicheva et al., 2014). Its application in education is particularly promising due to its capacity to positively affect user behavior by increasing user motivation and engagement. Some game designers must have an in-depth knowledge of the science of psychology and other fields that research human motivation and behavior. Gamification is a learning strategy that employs game or video game components to encourage and engage students in the learning process. Additionally, this media may be utilized to capture elements that appeal to and inspire students to continue their education. According to game designer, professor, and entrepreneur Raph Koster, the game incorporates an abstract system, a challenge, an evaluation, and a reward, as well as emotions. When all of these elements are incorporated into learning activities, learning will also be motivated by intrinsic factors. This intrinsic motivation is separated into two sections in gamification. The first section focuses on internal motivation, including challenge, curiosity, and imagination. The second component is interpersonal motivation, which consists of collaboration, competitiveness, and acknowledgment.

Gamification in education refers to the implementation of gaming elements (such as game design techniques, thinking games, and game mechanics) for educational

objectives. Nick Pelling initially popularized the phrase gamification in 2002 at a TED (Technology, Entertainment, and Design) event. Gamification is a learning strategy that uses game features to drive students to be more excited about learning and to increase their engagement in the learning process. Kalogiannakis et al. (2021) explain how the application of gamification in education to enhance engagement and learning effectiveness has attracted the attention of several scholars. The rise of the gaming sector has been affected by the advancement of ICT, which motivates educators to be more creative when designing learning success (Jusuf, 2016). It means that this development is increasingly advanced in the education field (Arifudin et al., 2021).

Although "gamification" might sound complicated, teachers can readily implement it in the classroom. The first requirement is a readiness to study and use technology. This applies to instructors of all generations; it is not only the younger generation. If we're a teacher, we may find a lot of gamification-related videos on websites like YouTube. There, a variety of practitioners have made an effort to explain the idea. The educator may then begin creating the gamification learning strategy. They can pick from a variety of components, the components of badges and points, for instance. Online assignments can be given by teachers, and each task has a certain point. Teachers may also provide various badges, such as the "First Collector" badge, for each assignment. These factors may encourage students to actively participate in the teaching and learning process. On the other side, educational institutions might also spend money on developing a gamified e-learning program. Students will now be able to view their achievements and badges on their corresponding profile pages. Educational gamification is an evolving strategy for boosting student motivation and engagement through the incorporation of game design elements into educational environments. (Dichev & Dicheva, 2017). Consequently, the purpose of this study is to review gamification in education, particularly in the teaching and learning process.

Method

This research is qualitative library research. library research. Library research can be interpreted as a series of activities related to library data collection methods of reading and taking notes and processing research materials (Zed, 2004). The researchers carry out this by reading, studying, and taking notes on various literature or reading material that is following the subject matter. This implies that the researcher is utilizing library-held source resources. The researcher accesses secondary resources (documents) since general library data are secondary sources. The document used in this research is articles (previous research) about gamification in the teaching and learning process. The researcher analyzes the data based on Miles and Huberman which included data reduction, data analysis, and a conclusion (Miles et al., 2018). In the reduction phase, the researcher simplifies (reduces) and eliminates extraneous data so that the remaining data can produce information pertinent to the research. In the display phase, the researcher organizes the data into each sub-title. In addition, the researcher discusses the findings before concluding.

Findings and Discussion

A. Concept of Gamification in Education

The use of gamification has now been widely applied in various fields. The trend of gamification in education has grown as technological advancements allow for more digitized learning environments to create interactive and engaging learning experiences (Bennani et al., 2022). Gamification is a new thing adoption of video game mechanics in other fields (Yunita & Indrajit, 2022). Gamification is the use of a game design technique in a certain field. Usually, gamification involves playing thinking and game mechanics to enhance non-game. Gamification works with more interesting technologies by taking advantage of the psychological predispositions of people to get involved in the game.

Gamification is an activity-based strategy that uses components of games to inspire people. In this context, gamification is also defined as the design and marketing strategy used by games to draw in players and motivate them to address issues. Gamification learning strategies are frequently compared to game-based learning strategies. Gamification and games, however, are distinct teaching tools. Gamification, which improves goal behavior and engagement, is the introduction of game features and game thinking in non-gaming environments. Gamification is a method of teaching that makes use of elements found in games or video games to encourage students to learn and increase feelings of enjoyment and engagement with the process. In addition, this media can be used to capture student interests and serve as an inspiration for them to keep learning.

Gamification education involves teaching methods that make use of the game's mechanics to address engagement issues for students. In summary, gamification can increase student engagement, including behavioral, emotional, and cognitive participation of students in learning, and can offer additional motivation to ensure that students can participate in educational activities. Gamification does not require us as educators (teachers or lecturers) to create original games or applications, however, it would be ideal. If an instructor lacks the necessary ICT abilities, they can still use straightforward methods to include gamification in their lessons. It is important to keep in mind that having the right concept, specific learning goals, and the ability to increase student involvement will make learning more enjoyable.

B. Game Elements in Gamification

The following are game elements that educators (teachers and lecturers) can apply in learning gamification:

1. Point system

When playing games, students must be familiar with the term points. When playing games, students will get points when they have completed certain activities or tasks, an example of the gamification of learning by applying a point system is that students will get points if they have completed a project or done a quiz. These points can be exchanged by students for certain rewards or will be calculated at the end of the month to determine the student of the month. If the teacher can make it in the form of an application, the teacher can use the points as a tool to unlock advanced projects/tasks/materials. Teachers can create interesting items such as avatars, stickers, and so on that can be exchanged for points that have been earned by students. The application of a

point system like this can increase students' learning motivation because it will make students feel curious about the missions/projects/tasks they can get.

2. Level System

In games that we often encounter, there are game levels that users can play. Usually, low levels have a low level of difficulty, and the higher the level of difficulty the more challenging. This level system can collaborate with the point system. For example, by obtaining a certain number of points, students can move up to an advanced level. Like the previous point system, the level system also makes students more challenged and have pride as their level increases.

3. Badges System

Games in learning in a class apart from getting points and being able to level up, students also have the opportunity to get badges or badges. Examples of gamification in learning are by applying the badges system, for example, after doing several tasks with results following the criteria given by the teacher, students will get badges. With this badge, students can have privileges such as having a special time to talk with the teacher, having longer meal times, being a group leader, and so on. Teachers can create badges with special categories such as bronze, silver, gold, and others. The more badges that can be collected, the more enthusiasm and pride in students will be made so that they do not realize that they are studying.

4. Leaderboard System

In a game, the Leaderboard can show the ranking of students. The higher the achievement achieved by the students, the more confident and enthusiastic students are in completing the next tasks to further improve their position on the leaderboard. By looking at the leaderboard, students can measure their abilities. Currently, many online learning platform providers that implement a gamification system will sort user ratings based on the results or values obtained so that teachers do not need to be difficult to create their own. However, if the teacher wants to set aside a little time, the teacher can create a leaderboard manually by pasting the names/photos of students in the leaderboard. Students who are in a lower position will be encouraged to go up and vice versa, students in a position at the top will try to maintain their position.

Gamification is when we incorporate game elements into the world of education. There are three main ways to apply gamification in the learning process. This includes changing the assessment model, using the language of games, and modifying the structure of classroom learning. First, we usually judge using numbers (100, 70, 40) or letters (A+, A, B+, B, B-) this can be gamified into scoring in games, such as experience points (XP) which if the player manages to reach Certain experiences can take prizes or progress to the next level. The use of game language can be used to change the classroom atmosphere, for example, if students are usually required to complete assignments, with gamification students will fight bosses or look for treasure. The class structure is modified with game elements into an exciting narrative, such as adventures in a fantasy world, full of monsters and challenges (tasks), adventurers (study friends), Wise Sages (teachers), and so on.

C. Benefits of Gamification

1. Gamification Increases Students' Motivation and Engagement

There are several studies of gamification's impacts on students' motivation and engagement. Gamification is the application of game thinking and game mechanics in non-game environments that encourage play to engage users in problem-solving or for educational objectives. Gamification is not the creation of games, but rather the use of play to make education more engaging and enjoyable for students without weakening its legitimacy. Lesson delivery in contemporary education is related to a lack of engagement and motivation among students to actively participate in the learning process (Mee et al., 2021).

Motivation plays a crucial part in driving learning (Anisa et al., 2020). Improving student motivation is a crucial component of the educational process (Pastushenko et al., 2018). Using innovative educational mechanisms, such as gamification, is one possible method for achieving this goal. Gamification enables the addition of game-like elements to traditional learning management systems and virtual learning environments, such as points, levels, and meaningful narratives. Lamprinou & Paraskeva (2015) states that using gamification (gamified e-learning) course can be used as an instructional tool to improve motivation and attain all learning outcomes and goals with better success in online education. Gamification is an innovative and engaging technique for enhancing student motivation and the learning process (Martí-Parreño et al., 2016). These statements are also supported by Alsawaier (2018) that gamification is the integration of game aspects, often video game characteristics, into non-game contexts to increase motivation and engagement in learning. The indicators of students' motivation to learn increase including students enthusiastically asking questions and preparing to learn. Students ask for the number of practice questions added and they feel the duration of learning is short (Takdir, 2017).

According to Hasan et al. (2017), the student's responses indicated that gamification can enhance student learning and increase their enthusiasm and interest in a subject. The integration of a gamification technique improved student interest in the course and desire for success. This strategy was also found to increase student motivation (Bicen & Kocakoyun, 2018). So, the gamification technique has an effect on students that makes them more ambitious and motivated to study.

2. Gamification Increases Students' Learning Outcomes

There are several studies of gamification's impacts on students' learning outcomes. Wastari & Sagoro (2018) states that there are differences in students' abilities between learning outcomes in pre-test and post-test data, which means that the application of the gamification-based cooperative learning model can improve student learning outcomes (Husniyah & Surjanti, 2021; Wastari & Sagoro, 2018). (Nurjannah et al., 2021) there are differences in learning outcomes before and after gamification. In other words, giving gamification is effective in learning mathematics.

The application of gamification (Edmodo) media can improve learning outcomes Rosyidah et al., 2019). It is also added that Irwan et al. (2019) explain that the application of gamification (Kahoot) can be used as an alternative interactive learning medium in higher education because it has been shown to significantly improve student learning outcomes between the control and experiment classes. It is possible to apply the use of Kahoot to improve learning results with different materials (Darmawan, 2020). there are significant differences in student learning outcomes in cognitive aspects before and after using Kahoot! application, which means that the learning process is more effective by using Kahoot! application media. compared to the usual learning process or using conventional methods (Muslim & Zola, 2022). Taopik (2020) explains more than the use of Kahoot's gamification-based application is effective because it can improve the learning outcomes of students as measured by cognitive aspects of understanding (C2), application aspects (C3), analyzing aspects (C4), and evaluating aspects (C5).

3. Gamification Influence the Learning Process

The gamification method will provide a positive effect on students.

a. Make learning fun and interactive.

Regardless of our students or subject matter, learning gamification can help us create engaging, educational, and entertaining content. This is not meant to turn work into a game, but it is given to play the psychology that drives human engagement. The rewards can be very satisfying and highly motivating for students. One of the main benefits of gamification is making learning informative and engaging, especially thanks to its interactivity. The elements of games and competition add a deep point of view, which, if well organized, can make learning enjoyable.

b. Create more desire to learn

If we had to determine the single most important learning goal, it would have to be to impart new knowledge to your students. But how useful is that knowledge if it can't be maintained? From gamification in learning, natural benefits can be given to students and have a big impact on knowledge retention. When our brain wants to reward, it releases dopamine into our body, so when we win a game or achieve something important to us, we feel better.

c. Opportunity to see real-world applications

Gamification makes students directly involved in observing learning. Learning on the fly can be a very effective way of strengthening skills by applying them in practical scenarios. Gamification of learning allows students to see real-world applications and benefits of the subject matter they are following. They can see first-hand how their choices in the game result in consequences or rewards.

d. Offer real-time feedback

Imagine if we only counted how well we do in life once a year. Work, relationships, and whatever else we do regularly, probably bores us. Gamification of learning allows students to learn towards given, measurable,

meaningful time targets, and get immediate feedback when those targets are met. After all, a learner will never thrive if he/she can't figure out what we need to do better or know how to improve his/her skills.

Besides that, the other benefits are: 1) gamification makes comparisons between one player and another player. In using gamification innovation in learning methods, one thing that is felt is that learning is like playing a game, therefore there will be a score, and it can be compared with other players. 2) Doing inter-class competitions. Of course, this can be done, with gamification technology, the learning methods used can even create learning competitions that are made like playing games with one class and another. 3) Be able to compare and reflect on the results of the gamification quality of students. By using the gamification method, it will be easier for students to measure their progress in the learning method. 4) Can use levels, checkpoints, and progress of each student. This is also important, in the learning method for each student, by using gamification technology, teachers can measure each student's level, checkpoints, and how they are progressing in that regard. 5) Give each student an award at each level. This method can also help teachers to give awards at every level that students have lived. 6) Can help students in providing perspective. With the gamification method, students can measure and give their views regarding the learning that is being carried out. 7) Students can practice solving problems. It is also very important to help students practice solving problems in their learning methods. 8) Train students to set their targets and how to solve them. It trains students to set their targets in the learning method and how they solve the problems and obstacles they face. 9) Create challenges and find ways to complete them. With the gamification method, students can learn to create their challenges and also come up with more than one way to solve them. Therefore, gamification shows as a useful learning tool to generate more engaging educational environments (Saleem et al., 2022).

D. Limitation of Gamification

Besides, gamification has limitations. First is extrinsic motivation. Giving extrinsic rewards can help make the class run as desired. However, the teacher remains responsible for helping students to be intrinsically motivated. Learning that occurs because of a desire that arises from within is much stronger and more meaningful than learning that occurs for the sake of obtaining rewards. Second, the game is the rule. While games require the freedom to experience things, fail, explore multiple identities, and control one's investments and experiences.

Lee & Hammer (2011) states that applying games to learning may instead create rules-adjusted experiences—thus in the end it still feels like a typical school learning experience. Third, psychologically 'damaging'. A lack of explanation to students about giving badges or rewards can make them view any learning process in the game as merely a stepping stone that must be passed towards obtaining rewards; rather than the acquisition of successful learning. Like other methods, Gamification in learning can run successfully and effectively, but it can also fail. So, the application of Gamification needs to be designed carefully; accompanied by an assessment of students regarding the achievement of learning objectives. In

addition, the gamification method of course also has shortcomings or gaps. One obvious thing is that it can cause friction between students because of the struggle for points and so on. Teachers can take the good side and think of ways to minimize their weaknesses. As with any method, gamification remains to be studied further related to the use or implementation of gamification in the teaching and learning process both in schools and colleges.

E. Game-Based Learning Platform

Gamification most of the time requires a system or platform to be successful (Goshevski et al., 2017). Game-based learning platforms are designed to increase learner engagement and productivity by incorporating game elements into training strategies. There are several lists of game-based learning platforms and their main features such as game elements and templates.

1. The Game-Based Learning Platform – EdApp

EdApp is a game-based learning platform that integrates various elements of engagement to help you increase course completion rates while ensuring an effective learning experience for your students. Microlearning is one of EdApp's core strategies for breaking down great training information into smaller modules. It focuses only on the key elements of a topic, allowing your learners to complete the course in just a few minutes. This strategy can be combined with gamification, which turns regular training modules into casual smartphone games so it doesn't feel like you're doing another job assignment.

Gamification results in a 90% (or higher) completion rate compared to a typical eLearning course. This is because it makes training feel like just playing a smartphone game. For easier creation of gamified microlessons, EdApp provides built-in authoring tools that include interactive templates such as picture/word match, jumbled letters, true or false, and more. It also has a gamification-based scoring system and reward system where students can earn Stars and win real prizes (like Amazon gift cards or discount coupons). To further increase motivation, you can stimulate friendly competition among your students through the Leaderboard feature available for micro-lessons, and even Quick Refresher quizzes.

2. Game-Based Learning Platform – Kahoot

As an online quiz maker and game-based learning platform, Kahoot! uses visually appealing gamification elements to maximize engagement and ensure higher completion rates among learners. Our students can access these interactive games and quizzes, uniquely called “Kahoots”, via a web browser or mobile app. The best part is that they can be presented on a shared screen and answered by a group of “players” at the same time via any video conferencing platform. Or, we can set up Kahoots as standalone challenges for each team member to complete asynchronously. The platform also provides trainers with reporting and analytics so that knowledge gaps can be filled and feedback can be provided.

3. Game-Based Learning Platform – Gametize

Gametize is an enterprise-grade game-based learning platform and LMS solution that enables organizations to enhance their employee training

experience, either through onboarding or upskilling programs. With this tool, you can easily design your gamified content by choosing from a huge library of game templates, divided into project categories such as employee engagement, learning and development, talent acquisition, and more. You can also increase training engagement and completion rates using flashcards, quizzes, and interactive challenges. Similar to other gamification software, Gametize uses leaderboards, badges, and prizes to drive motivation and encourage healthy competition within teams. Other advantages of this tool include results tracking and analysis, player moderation, and team collaboration.

4. Game-Based Learning Platform – Central

Central is a powerful gamification training software that allows you to design gamification micro-learning content. With an intuitive user interface, you will be able to create polished game-based learning materials without the need for advanced technical design skills. On the platform, you can customize learning challenges, set prize-winning competitions, or design quest-based game narratives to help your employees adopt the right behaviors, train skills in a risk-free virtual environment, and improve their overall knowledge and skills. need to succeed.

5. Game-Based Learning Platform – Archy Learning

Archy Learning is a complete gamification training software and eLearning platform that you can use to host global classes, perfect for those who train remote teams around the world. With an intuitive user interface, you can easily copy and paste Youtube links or upload class notes, PDFs, and other digital resources your students need to complete their training. You can even design a learning path to include course-specific quizzes, mixed media exams, homework, interactive video modules, and personalized games. Course certificates are also available to motivate students to complete their studies. The tool's school and home office tracking features are designed to give you insight into each course progress and assessment results of your students.

6. Game-Based Learning Platform – Hoopla

Hoopla is a sales gamification software and engagement solution specially designed to motivate sales teams to improve performance through contests, leaderboards, and real-time recognition. With this eLearning mobile app, you can identify sales goals and create tournament or race-style contests to promote friendly competition among employees and accelerate overall team productivity. Team members can even track their performance via the tool's built-in leaderboard system. Whenever an employee hits their goal, Hoopla automatically sends news updates directly to fellow team members so everyone can celebrate their win. By fostering a competitive and fun atmosphere, your team can have fun while achieving their goals.

7. Game-Based Learning Platform – Raptivity

Raptivity is an interactive eLearning solution that you can use to design engaging and visually stimulating online learning materials. The tool features a growing library of responsive interactions that include parallax view, slide pan, and 360 interaction. Even without design skills, anyone can customize interactive quizzes, games, simulations, flashcards, and brain teasers through

the tool's easy-to-use interface. this. Whether you're a teacher or an instructional designer, you can take advantage of the many capabilities of this tool to keep your students engaged and motivated throughout their learning journey. But it's important to note that it has some feature limitations and you may need to download an add-on to design a thorough eLearning course.

8. Game-Based Learning Platform – ProProfs

ProProfs LMS is employee training software that easily combines online and offline training, providing a blended learning solution. This LMS allows training managers to create new educational content created from scratch, or, existing courses from an online training course library. It features gamification elements which include brain games, learning paths, and quizzes. As well as increasing engagement, it allows learners to have control over what, when, and how they want to learn. For training managers, this reduces the time spent conducting instructor-led learning sessions. Instead, employees are allowed to learn at their own pace while still encouraging collaborative learning through virtual classrooms.

9. Game-Based Learning Platform – GoSkills

GoSkills is another feature-packed online on-demand training tool designed to make creating training courses easy. It offers a wide selection of bite-sized courses featuring sought-after skills, such as business writing, data analysis, and web development. Courses at GoSkills are mobile-friendly and cloud-based so you can take them anywhere. It also features examples of gamification such as diary notes and time-tracking goals. Students can also earn a verified certification which they can add to their resume and share on their LinkedIn profile. Apart from that, they can also get Continuing Education Units (CEUs) or Professionals Development Units (PDUs).

10. Game-Based Learning Platform – Hurix Digital

Hurix Digital is an end-to-end digital content solutions provider that integrates multiple content creation and delivery platforms designed for modern learning. Among these platforms are dedicated LMSs that allow organizations to deliver training content through immersive training modules. It includes engaging videos, gamification, simulations, and scenario-based learning accessible across devices. With these tools, you can customize your LMS according to your organization's specific training workflow. Its game-based learning strategy combines puzzles, problem-solving games, strategic games, challenge-based games, and more.

F. Kind of Game-Based Learning

There are various kinds of games in the classroom that can be implemented. Smart Teachers can choose gamification using certain applications or even without certain applications. Recommendations for gamification for junior high school students should be adjusted to student interests. For example, if students like technology, Smart Teachers can create digital-based games or take advantage of existing applications. But it doesn't rule out the possibility that games that don't use technology will still be fun depending on how the teacher packages the game.

The following is an example of gamification in learning that teachers can apply in class:

1. Adventure or Exploration Mission. Adventure or exploration missions can be carried out inside or outside the classroom. Doing activities outside the classroom would of course be more advisable because it can provide a new learning atmosphere. Adventure missions can be carried out by placing or pasting questions or challenges in certain places such as trees, pots, walls, and so on. If students are allowed to bring cell phones, teachers/lecturers can change the questions into the form of a QR code that must be scanned with a cell phone.
2. Games with Certain Points or Levels. This game is very simple and easy to do. For example by giving points to questions according to their weight. The more difficult the questions, the higher the points or levels students will achieve. Based on the acquisition of points or the level achieved, students will receive certain rewards or benefits such as being class/group leaders or other forms of reward.
3. Riddles. Quizzes can't only be given in writing. But it can also be in the form of puzzles or puzzles. For example, in a series of questions made in the form of a puzzle, students who can complete one puzzle or riddle, can open the next puzzle. The student who can complete all the puzzles first will receive a reward. This activity can be done both individually and in groups.
4. Flashcards. Flashcards can't only be used to show pictures. This flashcard can also be used as a medium in the application of learning gamification. An example of its application is to determine certain flashcards as secret cards that contain questions. If students choose the secret cards, they must answer questions or carry out the instructions given by the teacher. Students who happen to choose ordinary cards will be free from the challenge given.
5. Memory Game. Gamification with memory games can be done manually using a blackboard or using PowerPoint if the class facilities and infrastructure support it. In this game, Smart Teachers can modify activities such as matching, answering questions, and so on. Students who can pass the challenges given will of course be rewarded. To write down points or scores, the Smart Teacher can create a leaderboard in class. The student with the highest score or points will occupy the top of the leaderboard. This will make students more motivated to complete all the challenges given so that they can occupy the highest positions.

If we want to include gamification in every subject to be taught, then we must ensure that the lessons are interesting from the beginning. Then when entering the middle of the material, inform the students that the lesson will continue with games. 1. Make gamification part of the evaluation. We can use the game as a small evaluation or quiz to find out if the students understand the subject matter given. The game made should be like a challenge to the students, so that they can complete a game. 2. Gamification in the form of multiple choice. When we have difficulty or are confused to make gamification in the lesson, we can use multiple choice as part of gamification in education. Make it seem like a game, not just a test. For students to feel like it's not a test, you should prepare

several topics that students can choose from. Then make it seem like a game by giving different scores for each correct choice. 3. Make our students like detectives. Another fun way to apply gamification in education is to play a role. For example as a detective or someone who carries a mission. Games like this will encourage students' curiosity so that they are motivated and enthusiastic in seeking new knowledge or insight. We can provide clues to the mission that must be completed, then provide keywords and trusted media that can help them get the information they need. 4. Give rewards like badges. The end of the game you do during the lesson is to give appreciation in the form of a reward with a badge. We can prepare such a plaque or a badge for those who managed to get the highest score. The charter or badge then install for example on the notice board. Knowledge Tour, for example, has a special deck on the notice board platform by giving badges to students. The notice board at the Knowledge Tour can be seen by students, teachers, and school members. Of course, this will increase students' enthusiasm and self-confidence.

G. Applying Gamification in the Teaching and Learning Process

Currently, educational technology activists or Indonesian education startups make gamification an effective learning method. Gamification is a concept that adapts video games to learning methods. The goal is to increase the learning motivation of its users. In the gamification system, the designer tries to present interesting and not boring learning innovations. Examples of innovative learning used in the gamification method are, using videos or animations that are mixed and matched with learning materials at school. Because it was adapted from a game, of course, there are game elements embedded in this method.

Gamification is an innovative pedagogical strategy that uses digital games as a learning aid in an educational setting (Ling, 2018). The application of gamification in the learning process is considered effective by researchers. (Lister, 2015) mentions those game elements such as points, badges, achievements, leaderboards, and levels have a positive effect on students' enthusiasm for learning. This is supported by the statement of Park & Kim (2021). They said that gamification not only increases motivation, but also self-efficacy, self-determination, career motivation, values, and students' understanding of educational content.

Making learning gamification should not be careless. Everything must be carefully thought out. The steps for applying gamification in learning include 1). identify learning objectives; 2). define the big idea; 3). create game scenarios; 4) design learning activities; 5) build groups; 6) apply game dynamics. In this case, the meaning of gamification is directed at efforts to change negative thoughts about games in the world of education and want to manipulate and package games towards learning to be more useful by using innovation and development in the learning process itself.

Gamification is not a foreign term in the world of education because there are quite a several schools in this world that have implemented gamification in their curriculum as a step in keeping up with the development of the game world today, which continues to grow rapidly and is something that students like. The

development of the game world should be adopted by educators as much as possible to create a more fun, meaningful and independent learning process. The concept of gamification itself refers to the use of game design elements in applications or systems that have nothing to do with games. This will certainly motivate students to study the modules they will study according to the level determined by the educator. Of course, there are various steps in applying gamification in the learning process that you do and the following are some steps that can be applied in the classroom:

1. Integrate educational video games into the curriculum. Just like a game, in gamification participants can learn to face failure, overcome, survive, and rise to be able to win a game. Students learn to control the choices they make, and the more agency students have, the better students will do it. Currently, there are enough educational video games or if necessary, educators can make their video games according to their needs which are integrated with teaching materials that will be delivered by educators. In addition, providing feedback on what they are doing can be a great motivation for them.
2. Move with a little competition in Gamification. It will increase the enthusiasm of the students if it is carried out in a competition as they often play and will encourage them to always try to bring out and do the best according to their ability to produce the best.
3. Encourage independent learning in the Gamification of homework. Educators need to instill in their students is to have learner character. They must continue to learn without being limited by classrooms and study hours at school but they have the desire to continue learning and learning. Gamification can help to achieve this such as a game worth searching for treasure, investigating a case, and so on which of course will indirectly mean that learning is not a process that stops at a certain point but it is necessary to keep learning and learning and it will continue.
4. Gamification in scoring. The final grade of students is determined by the number of points they get in each module of the material they have studied. With this step, the teacher will be able to easily determine whether the students have read/studied the modules that have been prepared in the teacher's LMS. In addition, each assignment and test undertaken by students will be more meaningful, and useful and will not disappoint students. The author has also participated in the same thing in learning some materials from Microsoft to increase the author's knowledge about educating by integrating with technology.
5. Implement a broader class reward system. Gamification can also be applied in a wider class, for example by giving the same game to two or three classes taught by educators. The class that collects the most points is the winning class. By applying this, students will work together to achieve the highest points to become champions and will directly create collaboration between students in the class to achieve the highest points and be champions. Gamification is not designed to replace pedagogy but by applying this method it can be used to improve the overall learning experience and provide more motivation for students to be able to learn independently.

The gamification learning method was created to follow the era when students prefer to play games rather than study, therefore the gamification method can be applied to education management at a higher level of education. It is hoped that this method can increase students' interest in learning to motivate them to explore abilities in the learning process (Rahardja et al., 2019). Gamification is one of the game-based strategies that emphasize interactivity, fun, and user engagement (Gasca-Hurtado et al., 2019). Gamification is one of the tech-friendly methods for students. It's a win-win solution for both teachers and students (Tiwa, 2020). Gamification in education settings needs students to participate deliberately to ensure the gamification retains the game-like nature (Cahyani, 2016).

Gamification Challenges for Educators

Each student has a different way of fostering a different enthusiasm for learning, especially in learning English. This spirit is called motivation. Motivation is an internal state of the organism that encourages it to do something. Learning motivation is a power (power motivation), the driving force (driving force), or a tool to build willingness, and a strong desire in students to learn actively, creatively, effectively, innovatively, and fun in behavior change. Both in cognitive, affective, and psychomotor aspects. The overall driving force both from within and from outside the students who ensure continuity and provide direction to learning activities, so that learning objectives are achieved.

As English teachers or lecturers, of course, we will face students with multiple conditions. Both in terms of children's potential, intelligence, environment, family background, and so on. The development of learning through game manipulation (gamification) can motivate students to be more enthusiastic and enthusiastic in participating in the learning process so that learning objectives can be realized. Adnan et al. (2020) explain more that gamification is a useful method for teaching challenging courses at the higher education level; nevertheless, group size should be considered for optimal classroom size and a better learning experience.

Conclusion

Gamification is the use of game elements and game thinking in a non-game environment to increase target behavior and engagement. Although the term "gamification" tends to sound difficult, in practice developers can implement it easily. The first thing that is needed is a willingness to learn and apply technology. Gamification can be designed to give positive impacts on students by incorporating game elements into training strategies. Of course, there are various steps in applying gamification in the learning process that can be applied in the classroom. Gamification of learning means teaching techniques using mechanical elements from games to provide solutions for building student engagement. In short, gamification can provide additional motivation to ensure students can take part in learning activities while at the same time increasing student engagement which includes the behavioral, emotional, and cognitive involvement of students in learning. Gamification does not mean that teachers/lecturers have to make special games or applications, even if it can be done that would be even better. However, if ICT skills are not possible, then the teacher/lecturer can use simple tools to implement the gamification process in

classroom learning. The important is the right concept, clear learning objectives, and can build student engagement in learning so that learning is more enjoyable.

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