

The Implementation of Gamification Method in Blended Learning

Sella Mawarni¹, Hartoto²

Universitas Negeri Makassar, Indonesia

e-Mail: sella.mawarni@unm.ac.id¹

Abstract. The study aims to describe the implementation of gamification method in blended learning which is carried out during one semester in the Educational Technology study program. This study used descriptive qualitative method. The research population consisted of 82 students of Education Technology class of 2021. Data was collected using the documentation method, and a questionnaire through Google Forms. The data were analyzed and interpreted in a descriptive qualitative manner by referring to the formulation of the problem set. The result showed the following; blended learning that applies the gamification method is considered more fun, facilitates learning and increases student engagement during the learning process. The learning stages that need to be done to apply the gamification method in learning are determining the characteristics of the learner, determining the learning objectives to be achieved, creating gamification-based learning content and activities, and adding game elements and mechanisms.

Keywords: *gamification method, blended learning*

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INTRODUCTION

On January 10, 2022, the Ministry of Education and Culture of the Republic of Indonesia issued a Decree of the Director General of Higher Education, Research, and Technology Number 2/E/KPT/2022 regarding guidelines for organizing even semester learning for the 2021/2022 academic year in universities during the 2019 corona virus disease pandemic. The decision explained that universities can carry out limited face-to-face learning adjusted to the PPKM level at the regional level. Makassar City was included in the PPKM Level 2 category last January, so that lecture activities can be carried out face-to-face limited while still utilizing the University LMS platform for online learning.

Online learning is used as an alternative solution when students cannot study in the classroom. *Blended learning* is a term that refers to the implementation of lectures that combine face-to-face learning in class with online independent learning. *Blended learning* methods can be implemented synchronously (at the same time) and asynchronously (at different times). Online learning needs to be designed with the use of appropriate strategies and methods so that learning objectives can be achieved. The gamification method is currently an attractive offer to be applied in learning, especially online learning.

Various types of learning methods and strategies have emerged along with the needs of educators in improving the quality of learning and overcoming learning loss. Gamification is a learning method that is considered capable of increasing student motivation and interaction. Gamification is defined as the use of game elements in a non-game context (Nacke & Deterding, 2017). Kapp (2012) defines gamification as using game-based mechanics, aesthetics, and game thinking to engage people, motivate action, promote learning, and solve problems. The concept of learning that applies the gamification method can be interpreted as having a pattern of thinking, approaches, and game elements in the learning process. Gamification in learning can be applied by integrating game components such as: *challenges/tasks, points, levels, badges, and ranking of users*. Whereas Game thinking that can be adapted into the learning process can be in the form of *freeform to fail, rapid feedback, collaborative processes, and competition*.

The gamification method has a huge opportunity to be applied in blended learning. Mechanisms and game elements can be implemented into the learning process to help achieve learning objectives, make students motivated to continue learning, and involve them in a competitive learning environment. This study discusses the application of the gamification method in the online learning process for the Kapita Selektta Pendidikan course which is carried out synchronously and asynchronously. The gamification method is applied to the context of learning in the classroom as well as through the SYAM-OK *Learning Management System* (LMS) Universitas Negeri Makassar. The gamification method applied in this research is in the form of badges, points, challenges and rewards that are supported by the use of learning tools such as Zoom Polling, Mentimeter, Qiuzziz, Padlet, and Canva.

Blended Learning

Blended learning is learning that combines online learning with face-to-face learning. If online learning is used more than face-to-face, it is usually called hybrid learning. On the other hand, if there is more face-to-face learning than online, it is usually called a technology-enhanced classroom (Belawati, 2019). Blended learning is synonymous with hybrid learning. Hybrid learning is a learning experience that is designed to combine online learning and face-to-face learning, so according to the Canadian Digital Learning Research Association (CDLRA) the two terms have the same meaning and can be used interchangeably (Johnson, 2021).

In the new normal era of the COVID-19 pandemic, blended learning is often an option that is considered capable of facilitating learning more effectively and efficiently. The results of research by Yates et al (2009) from 51 empirical studies comparing online learning with face-to-face learning concluded that students who took part or all of online classes performed better on average. Furthermore, the results of the study also compared blended online learning with full online, it is known that online classes carried out in a blended manner have greater advantages (Stein & Graham, 2014).

Gamification Method

The term gamification was first used widely in 2010 in the business and marketing world. Gamification was originally referring to the incorporation of social/reward aspects of games into software. In 2012 there were 45.000 people enrolled in Professor Kevin Werbach's online gamification course through Coursera. Gamification continues to grow and is not only applied in the business world. The characteristics of gamification as a powerful engagement tool have a very large possibility to be applied to the learning process.

Gamification refers to using game-design elements in any non-game system context to increase users' intrinsic and extrinsic motivation, help them to process information, help them to better achieve goals, and/or help them to change their behavior (Treiblmaier et al. , 2018) . The stages of learning that apply gamification (Kiryakova, et al, 2014) : (1) determine the characteristics of the learner; (2) determine learning objectives; (3) creation of content and learning activities for gamification; and (4) adding game elements and mechanics.

The gamification method can be applied with the help of learning support tools. Several software or tools (web based) to help implement gamification in online learning: Wordwall, Socrative, Kahoot!, FlipQuiz, Duolingo, Ribbon Hero, Quizziz, Padlet, Mentimeter and Goalbook . While in the Learning Management System, gamification can be integrated into various LMS features. Based on the study of Henrick et al (2016), several features in Moodle that allow the implementation of learning gamification, namely: users picture avatar, visibility of students' progress, display of quiz results, levels, feedback, badges, and leaderboard.

This study aims to describe the application of the gamification method in blended learning that has been carried out in the Kapita Selektta Pendidikan course. Blended learning in this course is carried out in the form of face-to-face lectures or online synchronously using zoom meetings and asynchronously with the help of

SYAM-OK. The results of this study can be used as literature on the application of gamification based on real cases.

RESEARCH METHOD

The research method used is descriptive qualitative method. This study describes the application of the gamification method in blended learning. This research was conducted in the Kapita Selecta Pendidikan course for one semester, namely in the even semester of 2021/2022. The research subjects consisted of 82 students of Educational Technology class of 2021.

RESULTS AND DISCUSSION

Lectures are designed based on learning steps that apply the gamification method, so that the following stages are applied: (1) determine the characteristics of the learner; (2) determine learning objectives; (3) creation of content and learning activities for gamification; and (4) adding game elements and mechanics. Prior to the lecture, a team of supporting lecturers developed a learning plan for the Kapita Selektta Pendidikan course. Several lecture topics were chosen to develop content and activities that refer to the gamification learning method. The discussion of the application of the gamification method will be grouped into 3 namely the gamification method in synchronous online learning, in asynchronous online learning, and in face-to-face learning.

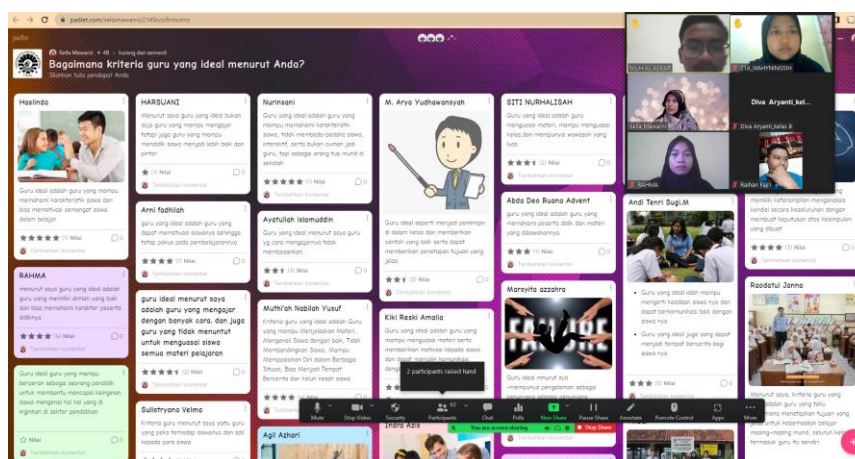
Application of Gamification Method in Synchronous Online Learning

On the topic of *Wajib Belajar* (mandatory learning) in Indonesia which is carried out synchronously using zoom, the gamification method applied is in the form of giving challenges that must be completed by students to get rewards as winners. In determining the winner, students are directed to do collaborative processes and competition in groups. The learning mechanism is that the class is divided into 2 groups which will examine the 9-year and 12-year WAJAR programs. To be the winner of the debate, each group competes to convince other students with logical and systematic opinions. The debate method is used as a form of challenges that must be completed and as a form of implementing collaborative processes and competition, a class poll is conducted to determine the winner of the debate.



Picture 1. Polling to determine the winner of the debate

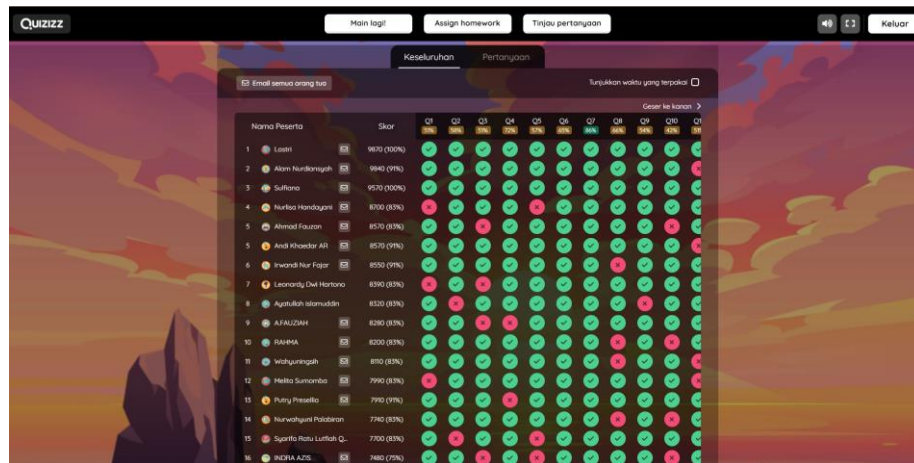
On the topic of Teacher Education, students are invited to brainstorm synchronously using Padlet. The gamification method applied is to give each student a challenge to write their best opinion, then provide *rapid feedback* for each opinion. Opinions will be assessed by giving a star badge. The use of Padlet makes students do collaborative processes. Each student can also comment on other friends' posts. After the lecture session ended, one of the students thought that the brainstorming activity using the Padlet was very interesting because of the ease of getting feedback and the appreciation in the form of a star badge.



Picture 2 . Brainstorming on Padlet

Use the Quizziz app to make lecture quizzes much more interesting. Quizziz is accessed together as part of the end of the course to check student knowledge retention. The Quizziz feature allows students to do evaluations like playing a game, due to rapid feedback, points, badges, and ranking of users so that students compete

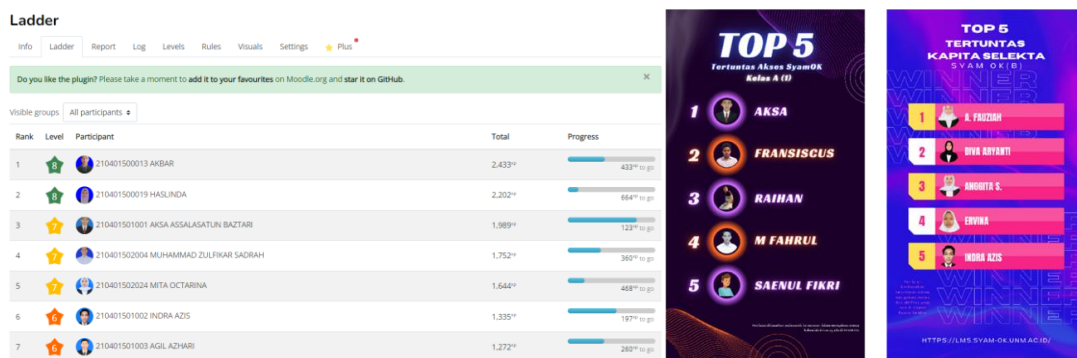
to get to the first place. The use of Quizziz can be applied to topics that discuss theoretical concepts or as games before starting lectures.



Picture 3 . Quizziz Leaderboard

Application of Gamification Method in Asynchronous Online Learning

Every student in LMS SYAMOK is always monitored in the form of a Progress Bar and Level (Badge) which is then processed into a competition for the TOP 5 Completed Students. The ladder board is the accumulation of student points if they have accessed the material or have taken quizzes or activities in SYAMOK. The accumulated points then turn into level stars and will automatically be sorted according to ranking. The output from the ladder board is then made into a class poster that describes the TOP 5 ratings for each class. The TOP 5 results then announced in the Whatsapp Group, it makes students more enthusiastic about competing to be more active in e-learning.



Picture 4 . SYAMOK Ladder and TOP 5

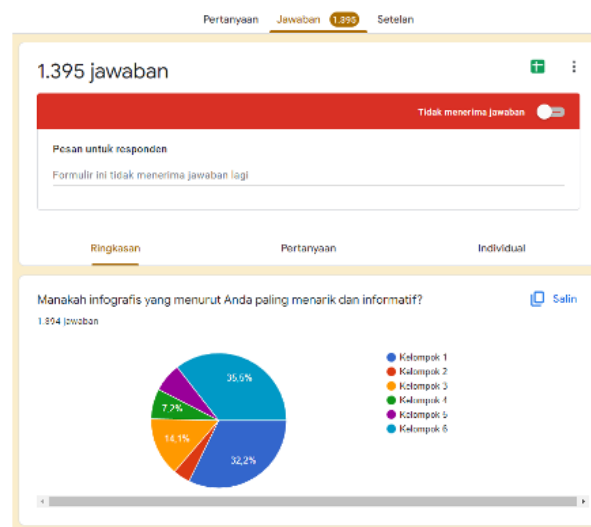
On the topic of discussion of Preschool and Elementary School Education, students are given a challenge to identify the problems that exist at each level of education. This task is done in groups of 4-5 people to practice competition skills between groups. The gamification method used is in the form of a collaborative process and competition component between groups which will then find the winner. Each group was asked to make an informative as well as interesting

infographic to be contested. The winning group in this challenge will get a reward in the form of a Canva Pro account for each member of the group. The determination of the winner is obtained from the results of a poll conducted using Google Form. Student enthusiasm is very high, this can be seen from the number of poll participants who reached thousands of responses, which means that students are trying to collect as many votes as possible to vote for their group. In these activities, it can be seen that a group challenge can trigger a collaborative process between members to compete for attractive prizes.



Picture 6. Infographic Competition between Groups

The image below shows the voting results for the infographic poll. The winning group is entitled to a prize and tells the group's strategy in winning this competition.



Picture 6. Infographic Voting Results

On the topic of International Education discussion, students are given a challenge, namely if they manage to collect 5 course certificates from Coursera or 3 certificates from FutureLearn, they will get top-up marks for past lectures so that they can be raised to a maximum score of 100. This challenge is not mandatory for all students, only for those who are interested. There were 27 students who finally succeeded in meeting the challenge and all of them received a reward in the form of an opportunity to increase their grades.



Picture 7. One of the Certificates from FutureLearn

Application of the Gamification Method in Face-to-face Learning

During the lecture, the proportion of face-to-face learning is only about 4 meetings while the remaining 12 meetings are held synchronously or asynchronously online. The duration of face-to-face learning is also shorter because it is only for discussing or providing orientation for work assignments or independent study. Face-to-face meetings are often held to confirm student understanding and announce prizes or appreciation for the winners of the challenges. At the end of the course, a Google Form survey was conducted on the gamification method during one semester of lectures. The use of the gamification method must at least have 3 main characteristics, namely increasing learner motivation levels, improving knowledge retention, and better learner engagement through social mechanisms like badges, points, or leaderboards (Buljan, 2021). The points asked in the survey at the end of the lecture are:

Table 1. Gamification Method Survey Questions

No.	Indicators	Responses	
		Yes	No
1	Are lectures that apply the gamification method considered more fun than other methods?	98.5%	1.5%
2	Can lectures that apply the gamification method make it easier for you to learn lecture material?	98.5%	1.5%
3	Can lectures that apply the gamification method more involve you to be active in lectures?	92.4%	7.6%

CONCLUSION

Learning tools will always develop and there may be more new tools in the future along with the development of digital technology. The main focus when applying the gamification method is not on what tools to use but on what activities need to be done to make learning more fun and interesting for students to always listen to. After finding what activities are able to support the achievement of learning objectives, then choose what tools or applications are able to support implementation in accordance with the learning objectives to be achieved. The gamification method can be applied to both synchronous and asynchronous learning. The learning stages that need to be done to apply the gamification method in learning are determining the characteristics of the learner, determining the learning objectives to be achieved, creating gamification-based learning content and activities, and adding game elements and mechanisms. The implementation of the gamification learning method can be supported by the use of learning tools in which it provides game aspects such as feedback, levels, points, and entertainment aspects when students operate the application. The use of tools is only to support and not the main focus of the gamification method, because the main focus is on the design of what activities will be taught.

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