



Media Gamification and Learning Evaluation in Indonesian Language MPK Courses at Ganesha University of Education

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Article Info:

Accepted: 1 October 2024; Approve: 20 October 2024; Published: 25 October 2024

Abstract: The purpose of this research is to (1) find out gamification as media and learning evaluation in Indonesian language MPK courses at Ganesha University of Education. The research method used in this research is descriptive analytical method with qualitative approach. The data collection techniques used are observation, interview, and documentation. The location of this research is at Ganesha University of Education. The research subjects were students who took MPK Indonesian Language courses at Ganesha University of Education. The results and discussion there are several applications to support learning in Indonesian language MPK courses, namely, Blooket, Gimkit, Kahoot, Quizwhizzer, Wordwall, and Oodlu. Student grades using gamification increased from an average of 7.5 to 8.5. Gamification with various applications is able to increase the positive attitude of students in learning Indonesian at Undiksha.

Keywords: Gamification; Evaluation; Learning media.

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1. INTRODUCTION

Gamification in learning plays an important role in increasing student motivation and engagement (Jusuf, 2016). Gamification is the use of game design elements, such as rewards and points, in a non-game context with the aim of making the learning experience more enjoyable and engaging (Nand et al., 2019). In the world of education, gamification can also be termed as the process of changing existing activities or learning activities and making content like a game (Chandross, 2018). Unlike Game Based Learning, which is a game application specifically designed to help the learning process, gamification is applied by changing the entire learning process into a game using game elements such as badges, points, levels, and leaderboards in a non-game setting to engage students and encourage desired behavior (Ab. Rahman, Ahmad, & Hashim, 2018).

One of the learning that requires a gamification approach is MPK Bahasa Indonesia learning. The MPK Bahasa Indonesia course is a compulsory course that must be taken by every student.

The class division system in this MPK course uses a rombel (study group) system consisting of students from different majors. However, even though they come from different majors, their interest patterns are the same. Based on the results of initial observations, 99.8% of students want a gamification approach in learning. This is what strengthens the research on the use of gamification in MPK Bahasa Indonesia learning at Ganesha University of Education. Therefore, this study will describe "Media Gamification and Learning Evaluation in the MPK Bahasa Indonesia Course at Ganesha University of Education". Some gamification that has been given is only for the purpose of class management to make it more exciting. In fact, this gamification can be used to conduct evaluations in learning.

This specific objective is to determine the use of gamification as a medium and evaluation of learning in the Indonesian language MPK course at Ganesha University of Education. The urgency of this research is the importance of utilizing innovative technology with a gamification approach in learning. Educators must maximize the use of existing technology to support learning. This is because the students who are taught have also entered the industrial revolution era towards the era of society 5.0. The curriculum can be designed to include gamification as part of the subject matter. This can be in the form of quizzes, games, or interactive activities designed to improve student understanding and retention. Gamification can be used to make learning more interesting and interactive. Gamification can be used as a self-learning tool, allowing students to learn at their own place and time. This gamification can also be designed to cover a variety of topics and support self-learning. Gamification can be used to improve evaluation and assessment.

In this study, researchers tried to explore media gamification and learning evaluation in the Indonesian Language MPK course. Gamification is the best way to make learning interactive. The idea of gamification is something that is very fun for students. We need to know that there is no need to have a technical background to gamify learning. For teachers, to incorporate gamification into their learning, it is good to have a good understanding of educational games and how they work. Learning that uses gamification goes through several stages. Each level will have a mission to complete a number of modules. To complete the mission in each module, students will complete challenges, including reading modules, completing assignments, following practice questions, to participating in discussions/vidon. In order for students to complete the next vision, they must pass the exam. Students also cannot continue the level if the previous mission has not been completed. The elements in gamification are not much different from the elements that we often find in the games we play. If in a game of course there is a goal that must be done by the player to complete

the game. Likewise with gamification, in gamification there are also achievements that must be achieved by the player. The achievements that must be achieved also vary according to the purpose of gamification. The number of achievements that must be achieved also varies from one to another.

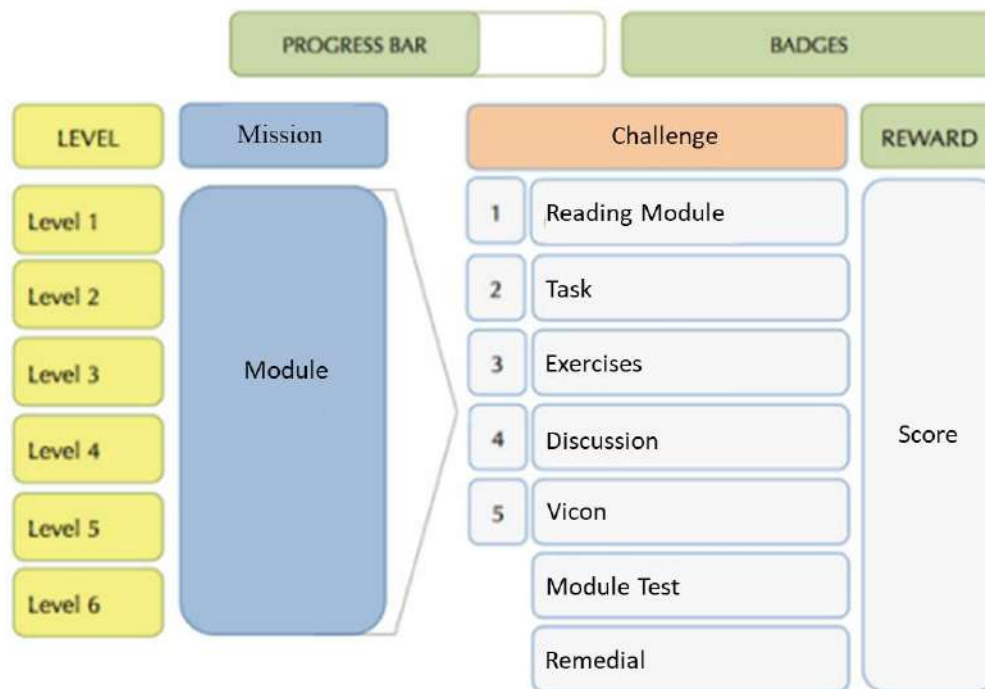


Figure 1. Gamification Chart of Learning Applied to Indonesian Language MPK Learning at Ganesha University of Education (Source: adapted from the Ministry of Education and Culture Module, 2018)

Levels in gamification need to be created to make it easier for players to assess their abilities. With this level, players will also know how far the game will end and can measure their abilities. Levels are also created to guide players starting from games with low difficulty levels and continuing to increase to higher levels of difficulty so that players will not feel sudden difficulties and can still enjoy the game. Gamification in learning certainly does not only utilize the game to its full potential. Of course there are challenges that are created and modules that must be studied before completing the challenge.

2. METHOD

The research method used in this study is a descriptive analytical method with a qualitative approach. In this method, researchers not only describe events that have occurred, but also analyze the meaning of the phenomenon. The data collection technique used is the researcher conducting observations regarding the use of media gamification and learning evaluation in the Indonesian

Language MPK course at Ganesha University of Education, interviewing students after learning, and collecting photos during learning. The research instruments used to collect data, namely written guidelines and observations, interview guidelines, and documentation. The location of this research is at Ganesha University of Education. The subjects of the research are students who take the Indonesian Language MPK course at Ganesha University of Education. The reason the researcher chose the location and subject of the research is that the gamification approach has not been implemented, either as a medium or learning evaluation in the Indonesian Language MPK course at Ganesha University of Education. This causes this research to have high novelty and urgency so that it must and is important to be carried out.

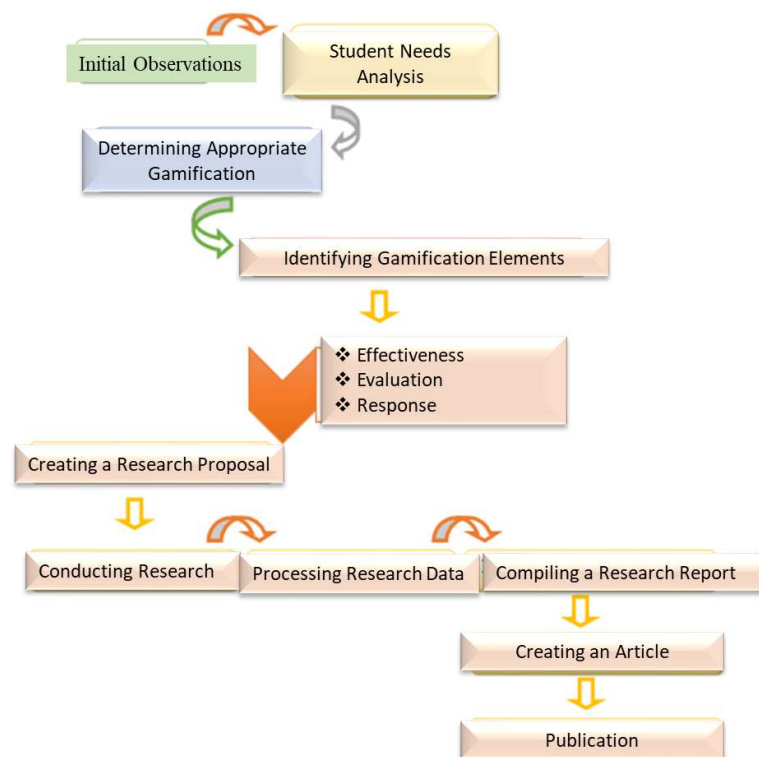


Figure 2. Flowchart or Research Stages

Based on Figure 2 above, it can be seen that there are several important flows and stages in implementing gamification media and learning evaluation, especially in the Indonesian Language MPK at the Ganesha University of Education. The following is a description related to the explanation of Figure 2 above: (1). The researcher has conducted initial observations in the Indonesian Language MPK class at the Ganesha University of Education by distributing questionnaires, conducting interviews, and conducting documentation, (2). The researcher analyzed the needs of students based on the results of initial observations and obtained data that 99.8% of

students wanted learning with a gamification approach in Indonesian Language MPK learning at Undiksha. This is because many teachers still rarely use innovative applications during online learning so that some students feel bored with learning, (3). The researcher has sorted and identified learning gamification that is appropriate for the Indonesian Language MPK course. Data was obtained that gamification that is appropriate for Indonesian Language MPK learning in higher education, including WordWall, Bammboozle, Quizizz, Quiswhizzer, Oodlu, Blooket, and Gimkit, (4). After determining the appropriate gamification, the researcher identifies the gamification elements that will later be created in learning. The researcher will design the content of the gamification, including the level of material, quizzes, awards, and challenges, (5) The researcher will conduct research on media gamification and learning evaluation in the Indonesian Language MPK course at Ganesha University of Education by looking for the effectiveness of using gamification, learning outcomes through evaluation using gamification, and student responses to the use of gamification in learning, (6). The researcher and members will process the data obtained during the research, conduct revisions, evaluations, and reflections.

3. RESULTS AND DISCUSSION

1) Blooket

Blooket or pronounced as 'blu-kit' is one of the platforms used for learning. Blooket can be used for online or offline learning. This web-based platform was designed by Ben Stewart and its copyright is held by Blooket LLC. This platform can be accessed using gadgets and laptops, only to become a host, users need to use a laptop because of the need to appear directly. The following is an example of the initial display (homepage) and the practice question page (quiz) in Blooket.

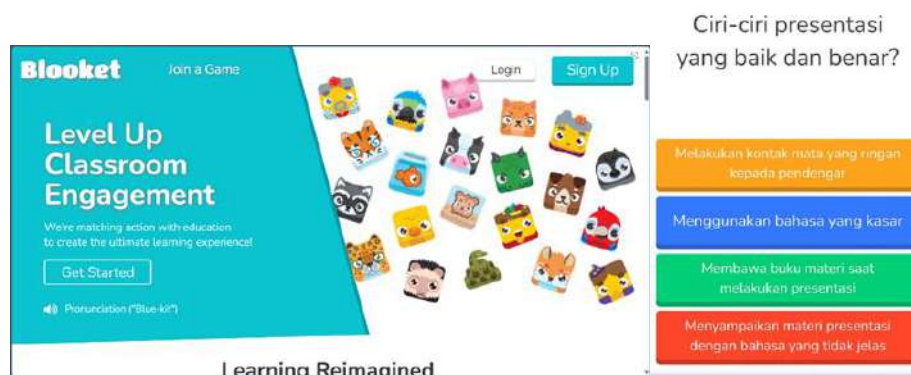


Figure 3. Screen Display in the Use of Blooket in the Implementation of Gamification Media in Indonesian Language MPK Learning at Ganesha University of Education

Blooket is an innovative educational platform that transforms traditional learning into an engaging game-based experience. Designed for both teachers and learners, it offers a variety of customizable game modes, such as live quizzes, flashcards, and collaborative challenges. It aims to make education entertaining while encouraging active participation. Blooket is used as an evaluation material such as quizzes and homework. Homework mode allows learners to work at home. Meanwhile, live mode allows learners to work and compete at one time with the teacher's screen displaying rankings, items used, and events that are happening in the game. According to Bratel, et al. (2021) Blooket presents a strong push of competition that motivates learners with the live quiz feature.

2) Gimkit

Gimkit is a digital quiz game that uses questions and answers to help students learn. The platform can be used across multiple devices and has the benefit of being available to students on their own smartphones, tablets, or laptops. Gimkit is designed to help them engage and interact with their learning experience. There are two types of questions available in Gimkit, multiple choice and text input. Students select the correct answer or type in a text box based on the question in the text box, and/or based on photos or audio recordings added. There are a number of exciting game modes that can be incorporated into Gimkit content, which increase student engagement with the material. Gimkit.com is a platform designed specifically for education, with a focus on interactive learning and role-playing in teaching.

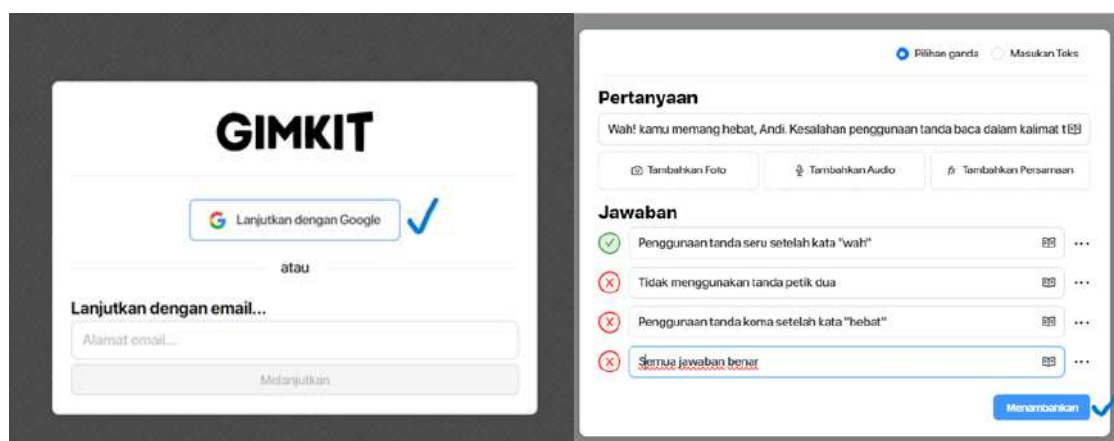


Figure 4. Screen Display in the Use of Gimkit for Educators in Implementation

Gamification in Indonesian Language MPK Learning at Ganesha University of Education. Here are some ways for a lecturer to use Gimkit in their class: 1) Creating questions and quizzes, lecturers can create questions around the topic being studied and package them in the form of interactive quizzes. This allows students to learn while having fun, 2) Organizing games, lecturers can organize quiz games with various options, such as group or individual games. This can make learning more interesting and competitive, 3) Monitoring progress, lecturers can track students' progress individually and as a group in working on quizzes. This allows lecturers to understand areas that need more emphasis in learning, 4) Lecturers can utilize Gimkit's collaboration features to encourage collaboration between students. This can be done by dividing the class into teams and giving prizes to teams that work well together, 5) Monitoring and feedback, lecturers can provide direct feedback to students based on their performance in the Gimkit game. This helps in improving students' understanding of the material being taught.

3) Kahoot

Kahoot is a multimedia game-based learning platform that allows users to create interactive quizzes or surveys in a fun and engaging format. The Kahoot app also gives users the option to create their own quizzes or use existing ones, create fun multiple-choice questions, and provide scores after the quiz is completed.

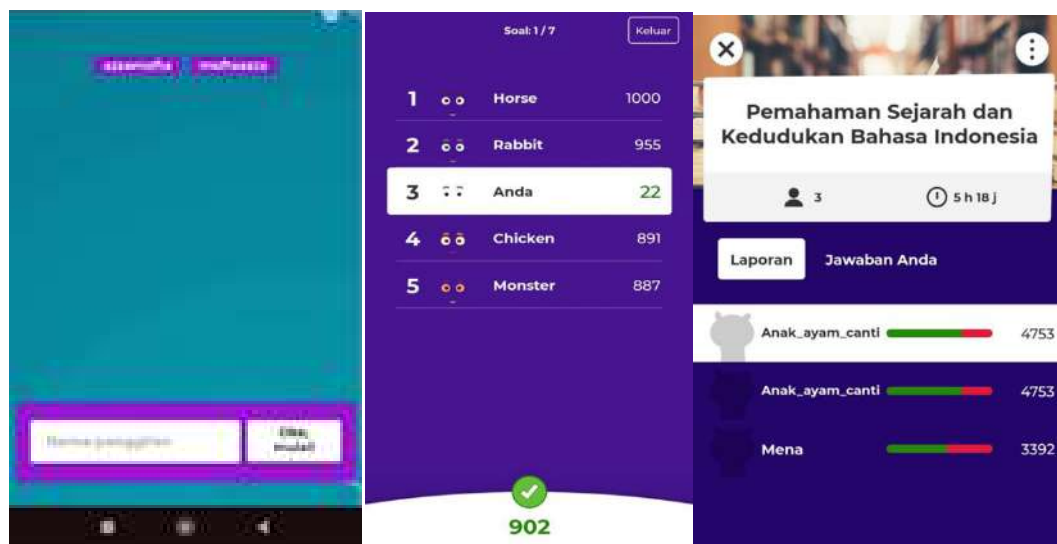


Figure 5. Screen Display in the Use of Kahoot in the Implementation of Gamification Media in Indonesian Language MPK Learning at Ganesha University of Education

Considering the shortcomings and understanding the advantages of the Kahoot application, it is important for educators to choose wisely the use of Kahoot according to the

learning objectives and characteristics of the students. In the procedure for using the Kahoot application for lecturers or quiz makers, they are required to carry out the steps of use first, which consist of 1) Preparation of materials. Determine the topic or material to be taught or tested using Kahoot, 2) Create an account or log in. Open the Kahoot application or visit the official website, namely (<https://kahoot.com/>), then create an account or log in using an existing account, 3) Create Kahoot (Quiz). Click "Create New Kahoot" to start creating a quiz, then give the quiz a title and add a description if necessary, add questions with answer choices and set the time to answer each question, 4) Set quiz options. Select options such as "enable training mode" or "enable competition mode" as needed, then determine whether players can see the score directly or not, 5) Start the quiz. After you have finished creating a quiz, click "Start" to start the Kahoot session and then share the generated pin code with the quiz participants, 6) Players join. Participants use their devices (computers, tablets, or mobile phones) to log in to Kahoot using the shared pin code, 7) Assessment and scoring. After all questions are completed, Kahoot will display the score for each participant, then share the final results and discuss the correct answers for each question, 8) Evaluation and analysis. After the quiz is completed, you can then view statistics and analysis on how participants answered each question, this can help evaluate their understanding of the material being taught.

4) Oodlu

The Oodlu application is one of the learning tools that can support the learning process of students. In addition to functioning as a tool for delivering learning materials, this application can also be used as an interesting and fun assessment tool. By using interactive game media, this application allows users to participate in multiplayer activities in solving problems or puzzles, making learning more fun and interactive.



Figure 6. Screen Display in the Use of Oodlu in the Implementation of Gamification Media in Indonesian Language MPK Learning at Ganesha University of Education

The Oodlu application has the advantage of making students happier when learning, because Oodlu has games that are not boring. After students can answer the questions correctly, then students are given challenges in answering questions that require them to think creatively and are required to concentrate more in order to play the game well (Sari, 2022: 400). One of the disadvantages of Oodlu is the dependence on technology and internet access. In addition, the use of Oodlu also requires adequate technological knowledge and skills from teachers and students.

5) Quizwhizzer

The Quizwhizzer application is one of the learning media that can support the student learning process. In addition to being a means of delivering learning, this application can also be used as a means of assessing interesting and fun learning. The use of interactive game media can be done through the Quizwhizzer application.



Figure 7. Screen Display in the Use of Quiz Whizzer in the Implementation of Gamification Media in Indonesian Language MPK Learning at Ganesha University of Education

The Quizwhizzer application includes multiplayer activities to solve questions or puzzles that make learning more fun and interactive. An application certainly has advantages and disadvantages. So is the case with the Quizwhizzer application. The advantages of the Quizwhizzer application include 1) Facilitating lecturers to create creative questions based on information technology, 2) There are many types of questions in the Quizwhizzer application ranging from multiple choice, essays, true or false, drag and drop, ordering, and so on, 3) Facilitating the assessment process because if you answer questions or quizzes correctly, the score and ranking will be automatically displayed, 4) When students answer the game incorrectly, the correct answer will be displayed along with the discussion, which is used as an independent correlation for students, 5) Students do not need to create an account first so that it can be easier

for lecturers to use it for students, 6) If you don't have much time to create your own game, users can search for games that have been created by other users using the Public Game feature according to the topics needed by the user.

After knowing the many advantages of the Quizwhizzer application, here are the disadvantages of the Quizwhizzer application, including 1) Quiz work can be hampered by network or internet problems and 2) Students can experience a decrease in ranking because they are unable to use their time properly. Judging from the advantages and disadvantages of the Quizwhizzer application, this shows that this interactive game application can be used to help in a better learning process.

6) Wordwall

Wordwall is a website-based application that can be used to create learning media such as quizzes, matching, pairing, anagrams, random words, word searches, grouping, and others. This media is not only accessed online, but can also be downloaded and printed on paper. Wordwall is an interesting learning media application from a browser. This application aims to be a learning resource, media, and assessment tool that is fun for students. The wordwall page also provides examples of lecturers' creations so that new users get an idea of creating as desired. The wordwall page also provides examples of lecturers' creations so that new users get an idea of creating (Sherianto, 2020).



Figure 8. Screen Display in the Use of Word Wall in the Implementation of Gamification Media in Indonesian Language MPK Learning at Ganesha University of Education

Wordwall can be used without having to go through the installation process because this application is online-based and used via Mozilla Firefox, Edge, or others. The functions offered

by Wordwall are very versatile and support flexibility in learning. This application offers 18 templates that can be accessed for free and allow users to easily change one activity template to another. The types of Wordwall templates that can be accessed include 1) Match up game is one of the tools offered by the Wordwall platform to increase interaction in learning. In this game, students must match two related objects, 2) Quiz is one of the features that allows lecturers to create interactive quizzes while learning. Quiz contains a series of multiple-choice questions. Students are asked to choose the correct answer based on the questions provided., 3) Random wheel is one of the interesting features of the Wordwall platform that allows lecturers to create random wheels as interactive learning tools, 4) Missing word is one of the Wordwall features used to create activities where players must drag words into empty spaces in the text. This feature is very useful for testing students' understanding of texts and improving their skills in making correct sentences, 5) Short group is a Wordwall feature that includes sorting items into appropriate groups based on specified criteria, 6) Find the match. This feature includes matching items or concepts that enhance learning through interactive games. It usually involves dragging items into the correct pairs, 7) Unjumble is a Wordwall feature that includes arranging words or phrases in the correct order. This interactive feature helps students practice sentence structure, word order, and comprehension by dragging items into the correct order, 8) Matching pairs is a game of matching related items from two columns. This activity helps improve memory, concentration, and recognition skills by requiring users to find matching pairs of tiles, 9) Wordsearch is a Wordwall feature that offers interactive word search puzzles that can be created and played online, 10) Open the box is a Wordwall feature that refers to interactive activities where participants touch virtual boxes to reveal objects hidden inside, 11) Labeled diagram refers to interactive activities. Users can drag pins to the right place on the image, 12) Random cards refers to a feature or activity that allows users to access random cards containing questions, images, or other information, 13) Anagrams refers to a feature that allows users to create games or exercises to find words from jumbled letters, 14) Flip tiles, users can tap to enlarge and pan double-sided cards, 15) Maze chase is a game where participants must run to the correct answer area while avoiding enemies or obstacles, 16) True or false is a type of quiz that requires participants to choose the right or wrong answer to the questions that appear, 17) Image quiz is a template that allows users to create image-based quizzes. Images appear gradually and participants must provide answers based on the images displayed.

Furthermore, the use of gamification in learning, such as Blooket, Gimkit, Kahoot, Oodlu, Quizwhizzer, and Wordwall, has been proven effective in increasing student motivation and understanding. Previously, research by Riad et al. (2020) showed that gamification platforms help increase engagement and retention of material in language learning, especially in interactive learning. These results are in line with other studies stating that competitive and collaborative elements in gamification contribute to improved learning outcomes (Zhao & Fang, 2021).

In addition, Fariha and Rahman (2021) found that applications such as Kahoot improve students' understanding of grammar and syntax, which is relevant to learning Indonesian where materials on spelling errors, words, and sentences are often difficult for students. In the context of using Oodlu and Quizwhizzer, a study by Mahmood and Ayesha (2022) highlighted that educational games help students master complex topics, such as diction and letter usage, in a more fun and interactive way.

Another study conducted by Fadillah and Hartono (2019) showed that gamification platforms such as Wordwall have a significant impact on improving students' writing skills, especially in writing scientific papers. This is in line with the results of the current study which shows that Wordwall and Quizwhizzer received positive responses from students in learning scientific material. In addition, the evaluation results in this study which showed a positive response to gamification are in line with research from Kurniawati et al. (2020), which found that gamification in language learning reduces boredom levels and increases learning satisfaction.

4. CONCLUSION

The conclusion of this study confirms the importance of gamification in education as an effective tool to motivate and increase student engagement. Gamification, which integrates game elements such as goals, objectives, and points, makes learning more interesting and dynamic. In the context of learning MPK Bahasa Indonesia at Ganesha University of Education, gamification successfully created an interactive learning experience, supporting a deeper understanding of the material. This study shows that the use of platforms such as Blooket, Gimkit, Kahoot, Quizwhizzer, and Wordwall have a positive impact on the learning process, especially on materials such as History and Position of the Indonesian Language, Writing Letters, Diction, Punctuation and Numbers, Sentences and Paragraphs, as well as Spelling/Word/Sentence Errors and Scientific Papers.

This study also found that students preferred the Wordwall, Quizwhizzer, and Gimkit platforms, which were proven to be able to increase motivation and interaction in learning. The

average score of quizzes given by students increased from 7.5 to 8.5 after the implementation of gamification, indicating that gamification was able to significantly improve learning outcomes. Therefore, the use of gamification as a medium for evaluation and learning of Indonesian Language MPK is highly recommended to support the achievement of better learning outcomes.

REFERENCE

- Ab. Rahman, R., Ahmad, S., & Hashim, U. R. "The Effectiveness Of Gamification Technique For Higher Education Students Engagement In Polytechnic Muadzam Shah Pahang, Malaysia". *International Journal of Educational Technology in Higher Education*, 15(1), 2018, pp.16.
- Ahmad, A., Zeshan, F., Khan, M. S., Marriam, R., Ali, A., & Samreen, A. "The Impact of Gamification on Learning Outcomes of Computer Science Majors". *ACM Trans. Comput. Educ.*, 20(2), 2020, pp. 25.
- Ariani, Diana. "Gamifikasi Untuk Pembelajaran." *Jurnal Pembelajaran Inovatif*, 3(2), 2020, pp. 144-149.
- Chandross, D., & DeCourcy, E. "Serious Games in Online Learning," *Int. J. Innov. Online Educ.*, vol. 2, no. 3, 2018, doi: 10.1615/intjinnovonlineedu.2019029871.
- De-Marcos, L., Domingues, A., Saenz-de-Navarrette, J., & Pages, C. "An Empirical Study Comparing Gamification And Social Networking On E-Learning," Elsevier: Computers & Education, 2014.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. "From Game Design Elements to Defining Gamification". *Proceedings of the 15th International Academic MindTrek Conference Envisioning Future Media Environments*, ACM Tampere, New York, NY, 2011.
- Dichev, C., & Dicheva, D. "Gamifying Education: What Is Known, What Is Believed And What Remains Uncertain: A Critical Review". *International Journal of Educational Technology in Higher Education*, 14(9), 2017, pp. 36.
- Fadillah, M., & Hartono, A. (2019). The Effectiveness of Gamified Learning Tools in Enhancing Students' Writing Skills. *Journal of Educational Research*, 33(2), 45-59.
- Fariha, S., & Rahman, A. (2021). The Impact of Kahoot on Students' Grammatical Mastery. *International Journal of Language Education*, 5(1), 66-74.
- Firmansyah, M. D. "Desain Gamifikasi untuk Meningkatkan Aktivitas Mahasiswa Pada E-Learning Universitas Jember Menggunakan MDA Framework". *Skripsi*, 2020.
- Göksün, D. O., & Gürsoy, G. "Comparing success and engagement in gamified learning experiences via Kahoot and Quizizz". *Computers & Education*, 15(1), 2019, pp. 135.
- Glover, I. "Play As You Learn: Gamification as a Technique for Motivating Learners," in *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications*, Hypermedia and Telecommunications, 2013.
- Jusuf, Heni. "Penggunaan Gamifikasi dalam Proses Pembelajaran". *Jurnal TICOM*, 5(1), 2016, pp. 1-6.
- Kapp, K. M., & Coné, J. "What Every Chief Learning Officer Needs to Know About Games and Gamification for Learning (Department of Instructional Technology and Institute for Interactive

- Technologies),” 2012.
- Kurniawati, A., et al. (2020). Enhancing Learning Engagement through Gamification in Language Learning. *Journal of Education and Learning*, 9(1), 29-38.
- Lee, JJ, & Hammer, J. “Gamifikasi dalam Pendidikan: Apa, Bagaimana, Mengapa Mengganggu?” *Pertukaran Akademik Triwulanan*, 2011.
- Mahmood, Z., & Ayesha, S. (2022). Educational Gaming Platforms as Tools for Language Mastery. *Educational Technology & Society*, 25(1), 89-102.
- Marisa, Fitri. “Analisis Pengaruh Motivasi Belajar pada Pembelajaran Model Gamification di Masa Pandemi Covid-19”. *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika*, 7(2), 2022, pp. 508-514.
- Nand, K., Baghaei, N., Casey, J., Barmada, B., Mehdipour, F., & Liang, H.-N. “Engaging Children With Educational Content Via Gamification”. *Smart Learning Environments*, 2019, pp. 6. <https://doi.org/10.1186/s40561-019-0085-2>.
- Rahmatullah, A. S. “Pendidikan Cinta Kasih Anak Dalam Perspektif Filsafat Ilmu”. *Jurnal Filsafat Indonesia*, 4(1), 2021, pp. 72–77.
- Riad, A., et al. (2020). Gamification in Language Learning: The Benefits and Challenges. *International Journal of Educational Development*, 41, 12-18.
- Sugar, S., & Kostoroski Sugar, K. *Primary Game: Experiential Learning Activities for Teaching Children*. San Francisco: Jossey-Bass A Wiley Company, 2002.
- Suliono, Indri Astuti, & Afandi. “Persepsi Peserta Didik Terhadap Gamifikasi dalam Pembelajaran Kimia di SMA Santo Paulus Pontianak”. *Journal of Science Education*, 7(1), 2023, pp. 58-63.
- Trianto. *Model Pembelajaran Terpadu, Konsep, Strategi dan Implementasinya dalam KTSP*. Jakarta: Bumi Aksara, 2010.
- Winatha, Komang Redy, & Ariningsih, Kadek Ayu. “Persepsi Mahasiswa Terhadap Penerapan Gamifikasi dalam Pembelajaran”. *Jurnal Pendidikan Teknologi dan Kejuruan*, 17(2), 2020, pp. 265–74.
- Yakub. *Pengantar Sistem Informasi*. Yogyakarta: Graha Ilmu, 2012.
- Zichermann, G., & Cunningham, C. *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*. Sebastopol: O'Reilly Media, 2011.
- Zhao, X., & Fang, Y. (2021). Exploring Gamification in Enhancing Student Learning Outcomes. *Journal of Pedagogical Innovations*, 18(3), 105-117.