



Analyzing the response of learners to use kahoot as gamification of learning physics

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ABSTRACT

This study aims to investigate the response of learners to use Kahoot as a gamification of learning. Kahoot is available for free applications, and this platform can be used in gamification based learning. Kahoot allows educators to make games based on quizzed, surveys, and other things related. Kahoot can be accessed using a smartphone-based on android and ios as well as through a computer with address www.kahoot.it. The method used in this research is descriptive method qualitative data support the results of analyzing the response of pesetas learners. This research was conducted in SMP Tunas Bangsa, West Jakarta learner class VII, with several 16 students. The instrument used in this study was a questionnaire. Instrument used validated using product moment formula and reliability using the formula KR-20. Based on the results of data analysis and discussion, we can conclude that the response of learners in the use Kahoot as gamification of learning that is in the select category with an average overall score obtained is 87.28%.

Keywords: Response learners, kahoot, gamification

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INTRODUCTION

Along with the development of technology and the industrial revolution 4.0, the need for the integration of technology in the learning process of learners. Technology-based learning should be done to make the students more interested in learning provided by educators (Yulita et al., 2018). One is the gamification of learning. Gamification of education is one of the ways being developed to improve the motivation and engagement of learners by incorporating elements of game design in the learning process (Dichev & Dicheva, 2017).

Gamification learning is an educational approach to motivating the students to learn to use a video game design and game elements in the learning environment (Karl, 2012). The goal is to maximize the fun and engagement of learners so inspiring and upgrade their interest to continue learning.

One of the names used in learning is Kahoot. Kahoot is an online application where the quiz can be developed and presented in the format of "game," a score is given for correct answers, and the students who participate will soon see the results of their responses on the screen. Game-based learning has the potential

to be a useful learning tool for stimulating visual and verbal components (Iwamoto & Taitano, 2017). The use of gamification Kahoot! better than using PowerPoint-based quizzes media (Ningrum, 2018).

Kahoot is exciting and helps in improving learners mastery of the material given in each session. Besides, this game can improve the competitiveness of students among their friends and increase interest and motivation in learning English (Barus, 2018). Other studies provide evidence that Kahoot! as gamification tools that can enhance the intrinsic and extrinsic motivation of learners (Lin, 2018).

The importance of the use of gamification in the learning process, especially in the technical and vocational courses in higher professional education. Aspects such as attitude towards gamification, the motivation of learners and learners perception plays an essential role in ensuring that the learning can be enhanced by using an effective method that can provide maximum learning level, thus ensuring that the knowledge delivered by educators effectively produced (Ismail et al., 2018). In line with this, participants also tend to be positive perception of gamification in the learning process (Rahman & Ahmad, 2018). Another study also showed that the integration of technology, in this case, using gamification an impact on increasing understanding of learners (Firdaus, 2017).

Kahoot application provides several benefits for learners, for example: to stimulate learners in considering the content of lessons, encouraging the desire to learn, reduce boredom and boredom of learning, and increase engagement. Most learners also assume that Kahoot allows them to be competitive and achieve the best results in education (Hakim, 2019). In addition, the students love to learn the lesson content by using the application. Further confirmed that the students always show motivation in learning. Game-based learning with an effective platform to be applied as a medium to motivate learners in the learning process (Nathania & Sabandar, 2018). About this allows a pleasant and enjoyable learning in the classroom.

Learners have a positive experience when they follow the learning process that integrates Kahoot. The majority of students reported that they focus and can be actively involved in the current language lessons using Kahoot! platform in their language lessons. Adaptive platforms and software like Kahoot! enable learners to engage and participate actively in the language learning process thereby providing language learning experience more meaningful and productive (Yapici, 2017). Learning to use Kahoot an excellent contribution to the improvement of the ability of learners (Omar, 2017).

Kahoot! is available for free applications, this platform can be used in gamifikasi based learning that has gained full acceptance globally with the use of more than 30 million worldwide. This allows educators to make games based on quizzes, surveys, and other things related. Top responders for each question indicated, and the overall winners will be displayed at the end of the session. The scoreboard at the end of the game will feature the winner. The beautiful thing about Kahoot is the result of a descriptive analysis of data can be exported and saved by the user for future reference.

Making Kahoot game takes the user/users to log onto the web Kahoot (<http://getkahoot.com>). After having a Kahoot account, users can create a question using the features available. Will automatically receive a code to run Kahoot. Laptop or smartphone using the learners can be accessing the game using the app or by browsing the website Kahoot www.kahoot.it. Learners need to enter a code that appears on the screen and register the name. After the game Kahoot begins, learners will earn points based on the answers given. Synthesized that Kahoot is based on gamification of education in which there are several icons to be developed. One of them is the icon quiz, where users can create quizzes using Kahoot for a study so that learning becomes exciting and not dull. Additionally, Kahoot can increase the motivation of learners as previous research.

Based on the above, the purpose of this

study is to find the response of learners to use Kahoot as a gamification of learning physics. many items; S is standard deviation test (standard deviation is the root of variance)

RESEARCH METHODS

The method used in this research is descriptive method qualitative data support the results of analyzing the response of pesetas learners. This research was conducted in SMP Tunas Bangsa, West Jakarta learner class VII, with several 16 students. The instrument used in this study was a questionnaire. Instrument used validated using product moment formula (Henukh et al., 2019).

$$r_{yx} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{(n \sum X^2) - (\sum X)^2\}\{(n \sum Y^2) - (\sum Y)^2\}}} \quad (1)$$

Where, r is the coefficient of relationship; n is the number of data; $\sum x$ is the total score of variable x; $\sum y$ is the total score of the variable y and reliability using the formula KR-20 (Sugiono, 2015).

$$r_{11} = \left(\frac{n}{n-1}\right) \left(\frac{s^2 - \sum pq}{S^2}\right) \quad (2)$$

r11 is the overall reliability of the test; p is the proportion of subjects who answered items correctly; q is the proportion of subjects who answered the item with one (q=1-p); $\sum pq$ is the result of multiplying the number of p and qn are many items; S is standard deviation test (standard deviation is the root of variance)

Data analysis was performed using a Likert scale to measure attitudes and perceptions of one's opinion (Sugiono, 2015). In determining the percentage of the successful use of equation (1).

$$P = \frac{S}{N} \times 100\% \quad (3)$$

Where P is the percentage of success (%), S is the number of acquisition value, and N is the number of maximum amount.

The data were then written interpretation of the scores below.

Table 1. Likert scale

The average score	Interpretation
0% -20%	Not good
21% -40%	Not good
41% -60%	Enough
61% -80%	Well
81% -100%	Very good

RESULTS AND DISCUSSION

The use of Kahoot as a gamification of learning physics can be seen in the picture below.

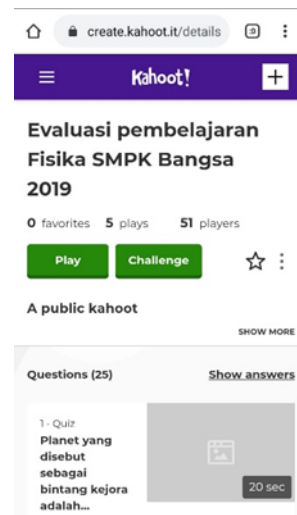


Figure 1. Display Kahoot use as gamification of learning physics.

The results of the analysis of the validity of the instruments used were 0.83, and its reliability was 0.81, so that the tools used are valid and reliable. The results of analyzing the response of learners towards learning by using Kahoot as gamification of knowledge can be seen in the Table 2.

According to the table above, it can be concluded that the average response was excellent learners. The average value is in the range 82.5 to 97.5 score, so it is in the superb category (Sugiono, 2015).

Statement in point 1 (a) shows the application of learning using the gamification with Kahoot makes learners focus on following the learning process with an average score of 85%. This is consistent with the results of the investigation, as mentioned earlier (Yapici, 2017).

table 2, The results of the analysis of the response of learners

No	Statement	Score Average (%)
1	I focus on learning when using gamification Kahoot	85
2	Learning by using gamification Kahoot kept me interested and engaged in the learning process	87.5
3	Learning by using gamification make the classroom a more interesting	83.5
4	<i>gamification</i> using Kahoot make me study harder to learn	82.5
5	Learning with gamification Kahoot make the class a more competitive	90
6	Gamification of learning to make the quality a more cheerful	92.5
7	<i>gamification</i> can reduce boredom and burnout me in learning	82.5
8	Learning with gamification increase my motivation	85
9	I am more active in learning with gamification	86.25
10	I'm easy to access and use Kahoot	97.5

Learning by using gamification Kahoot also makes learners feel, and classes become more attractive, with an average score of 87.5% and 83.5%. These data indicate that learners had an excellent interest when the learning process was conducted using gamification (Dichev & Dicheva, 2017).

The results of the data analysis also shows that the more active learners learn, indicated by a score of 90% so that they can compete competitively with her friends. This has an impact on the atmosphere of the class to be

competitive in a healthy way because of the tendency of positive competition among learners (Hakim, 2019).

Besides, learning with gamification makes the classroom atmosphere becomes more cheerful (Karl, 2012) with the live score to reduce boredom and burnout learners in learning. This is supported by data from students who say the classroom atmosphere becomes more cheerful 92.5% and reduce boredom and saturation in the study 82.5% (Hakim, 2019).

Learning by using gamification Kahoot also makes an average score of 85% motivates learners. Motivation is essential because with the high motivation of learners to encourage them to find out more in the materials studied (Omar, 2017).

Increased motivation of learners is accompanied with liveliness and ease in accessing and follow the learning process with gamification Kahoot. This is supported by the response data of learners with an average of 86.25%.

CONCLUSION

Based on the analysis of data and the above discussion, it can be concluded that the response of learners in the use Kahoot as gamification of learning that is in the perfect category with an average score obtained overall was 87.28%.

REFERENCES

- A Henukh et al. 2019 IOP Conf. Ser. : Earth Environ. Sci. 343 012160. (2019). Multimedia development based on web-connected Massive Open Online Courses (cMOOCs) on the fundamental physics of multimedia material development based on web-connected Massive Open Online Courses (cMOOCs) on the theoretical physics of materials. IOP Conference Series: Earth and Environmental Science, 343. <https://doi.org/10.1088/1755-1315/343/1/012160>
- Debbie Tan Ai Lin, Ganapathy, M., and MK (2018). Kahoot! It: gamification in Higher Education. *Pertanika J. Soc. Sci. & Hum*, 1, 565-582. Retrieved from <http://www.pertanika.upm.edu.my/>
- Dichev, C., & Dicheva, D. (2017). Gamifying education: what is known, what is believed, and what remains uncertain: a critical review. *International Journal of Educational*

- Technology in Higher Education, 14. <https://doi.org/10.1186/s41239-017-0042-5>
- Judge, AR (2019). Kahoot On Thematic Learning. *Journal of Online Learning and Teaching*, 1381. <https://doi.org/10.1088/1742-6596/1381/1/012035>
- Ismail, ME, Sa'Adan, N., Samsudin, MA, Hamzah, N., Razali, N., & Mahazir, II (2018). Implementation of the gamification Concept Using KAHOOT! Among TVET Students: An Observation. *Journal of Physics: Conference Series*, 1140 (1). <https://doi.org/10.1088/1742-6596/1140/1/012013>
- Iwamoto, DH, & Taitano, EJ (2017). Analyzing the efficacy of the testing using kahoot tm effect on student performance. (April), 80-93.
- Karl, K. (2012). *The gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education*. Pennsylvania: Pfeiffer.
- N Paradise. (2017). Improve Student Understanding Ability Through gamification in Instructional Media Based Explicit Instruction Improve Student Understanding Ability Through gamification in Instructional Media Based Explicit Instruction. *Journal of Ph*, 812. <https://doi.org/10.1088/1742-6596/755/1/011001>
- Nathania, G., & Sabandar, C. (2018). I Indonesian A Journal of Informatics Education Kahoot!: Bring the Fun Into the Classroom! 2 (2), 127-134.
- Ningrum, GDK (2018). Study on the implementation of media interactive quiz game based education kahoot! Learning outcomes of students. *Vox Education*, 9, 22-27.
- Omar, NN (2017). Effectiveness the application of kahoot towards students 'feedback good practice. 3 (2), 2551-2562. <https://doi.org/10.20319/pijss.2017.32.25512562>
- Rahman, RA, & Ahmad, S. (2018). 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. <https://doi.org/https://doi.org/10.1186/s41239-018-0123-0>
- Gloria Rasta Barus, TS (2018). *MEDIA USE KAHOOT! IN LEARNING ENGLISH STRUCTURE Case Study: Students of Vocational School - Institut Pertanian Bogor*. Bogor.
- Sugiono. (2015). *Educational Research Methods*. Bandung: Alfabeta.
- Umit Yapici, FK (2017). Gamification in Biology Teaching: A Sample of Kahoot Application. *Turkish Online Journal of Qualitative Inquiry*, 396-414. <https://doi.org/10.17569/tojqi.335956>
- Yulita, AR, Ambarwulan, D., & Bakri, F. (2018). Development of E-Learning Using Chamilo Learning Process To Help High School Physics Class X Semester II. *Gravity: Journal of Scientific Research and Teaching of Physics*, 4 (2), 15-25. <https://doi.org/10.30870/gravity.v4i2.4029>