USEJ 9 (3) (2020)

Unnes Science Education Journal

http://journal.unnes.ac.id/sju/index.php/usej

THE USE OF QUIZIZZ AS AN ONLINE ASSESSMENT APPLICATION FOR SCIENCE LEARNING IN THE PANDEMIC ERA

M. S. Darmawan[1], F. Daeni[1], P. Listiaji[1,✉]

[1]Department of Integrated Science, Faculty of Mathematics dan Natural Sciences, Universitas Negeri Semarang

Article Info

Received August 2020
Accepted September 2020
Published December 2020

Keywords:
Online assessment, quizizz, science learning, pandemic era

Abstract

In the current pandemic era, learning process must be counduct online, including for assessment. To support online assessments, it is necessary to use information technology. A good and valid application for online assessment offered in this study is Quizizz. The purpose of this study is todetermine student responseapplication of online exams using the quizizz.The research subjects were students of science education, Universitas Negeri Semarang. The exam is a midterm of astronomy course. The method of research carried out includesthe applied method, responding to quizizz in conductinglearning assessments of multimedia learning. Theresults showed that students were very responsive tothe application of the quiz during the midterms, thoughthe mean score was still low (43.08% with a standard deviation of 15.83%), but students accepted the resultsand try to fix it. For the questionnaire, student responses to the use of Quizizz tend to be positive with the results of 8 statements getting positive responses of more than 50% of the total students.The Quizizz presents the problem with easeby analyzing the results of the detailed answers to help teachersor lecturers in carrying out the assessment.

p-ISSN 2252-6617
e-ISSN 2502-6232

✉Corresponding author:
P. Listiaji
[1]Department of Integrated Science, Faculty of Mathematucs dan Natural Science, Universitas Negeri Semarang
E-mail: p.listiaji@mail.unnes.ac.id

INTRODUCTION

Currently the world is experiencing a pandemic due to the outbreak of the coronavirus. Yuliana (2020) defines that Covid-19 is a positive single strain RNA virus, encapsulated, has no segments, and has a cube-like structure with S protein located on the surface of the virus.

Reporting from https://www.who.int/, WHO's appeal in preventing the transmission of the Covid-19 virus is to implement social distancing or maintain distance in every activity carried out. This is also done by the Indonesian government with the holding of the stay at home movement as an effort to break the Covid-19 chain (Zhafira, 2020).In addition, the Indonesian government has also implemented policies such as isolation to large-scale social restrictions (Jamaluddin *et al*., 2020). In this movement, one of the sectors that has an impact is the education sector with the implementation of a policy to close schools until the time limit allows, so the class will be online.

Online learning is carried out by many schools (Hikmat *et al*., 2020), including UNNES. This pandemic has an impact on education where learning both in schools and colleges is carried out online. One of the components in learning is assessment. To support the online assessment process, a precise and fast application that is also based on information technology is needed. The use of information technology in online learning can increase student involvement and enjoyment so that learning becomes more effective (Mac Namara and Murphy, 2017). Online assessments are also able to provide accurate and colorful feedback regarding student work in exams (Gaytan and McEwen, 2007).

One of the digital applications that support online assessment is Quizizz. Quizizz is a game-based educational application, which presents classes with multiplayer activities so that classes become more interactive and fun (Zhao, 2019). In addition, multiplayer assessment activities supported students practicing together using their computers and smartphones (Ju and Adam, 2018).

The use of online assessment applications such as quizizz can encourage lecturers or teachers to be sensitive to technology(Rahmad. *et al*, 2019).Mastery is needed in the era of the current industrial revolution 4.0 and the current pandemic conditions. Technological innovations designed in assessments can reinforce the feedback students receive about their learning in order to produce substantial learning outcomes (Black and Wiliam, 1998) In addition, the use of interactive online learning applications is also able to build good communication between students (Sugilar. *et al*, 2018). The online lecture process is not limited by space and time but can be done anytime and anywhere so that it can increase motivation for class activities and trigger student interest in the material being taught (Bury, 2017; Hamilton-Hankins, 2017). This is what can make students respond positively to learning (Sugilar. *et al*, 2018; Baran, 2014)

Several previous studies have used the Quizizz application, such as Purba (2019) which utilizes the Quizizz application as an effort to increase student learning concentration in physics chemistry courses and concluded that learning evaluation using quizizz helps improve student learning concentration. Dewi (2019) uses the Quizizz application as an effort to improve completeness in learning physics combined with the problem-based learning method and the conclusions have been achieved.

Another research, Gonzalez (2019) in his master dissertation, conducted research using the Kahoot!, Plicker, and Quizizz to learn assessment. The results prove how promising the application is for increasing student grades and their satisfaction with studying the lessons. Bal (2018) in his research, proved that Quizizz can improve student vocabulary. In addition, research by Suo *et al.* (2018) made use of Quizizz in Arabic classrooms and it was found to be effective in improving student learning as a game-based learning tool.

By using the join my quiz.com page and the code provided by the lecturer, students can access the questionnaire, lecturers can set a deadline for student work with a certain day and time, Quizizz has a game-based design such as music, rankings, scoreboard, time, and more -other. This allows lecturers to insert pictures or videos related to questions, use formulas and symbols, and analyze the performance of each student or the whole group using Excel spreadsheets (Junior, 2020).

Quizizz is an educational application that applies the concept of gamification in that students show a position of attitude for quizzes as a tool for online teaching and assessment during class (Mac Namara and Murphy, 2017).It is also can increase students' understanding of the subject matter(Safitri and Putra, 2019).Research related to the use of the quiziz application has been carried out, including for online assessment of Arabic class (Ju and Adam, 2018), and applied to flipclassroom(Porcaro*et al.*, 2016).This software can present online multiples choice questions, mapping, true and false, and short entries. The feature for inserting images will also greatly support the assessment for science learning. This study investigates the feedback of Science Education students using Quizizz in multimedia learning astronomy classes. In addition, this study examines the effect of the frequency of implementing Quizziz on student feedback in the current pandemic era.

METHODS

The research method used is applied research, namely byimplementing the Quizizz application for online assessment. The subjects of this study were 23science education student, Universitas Negeri Semarang in the Astronomy course. The instrument used was the online test questions for midterm with learning multimedia Quizizz andquestionnaire to see student responses.Figure 1 showsthe research steps.

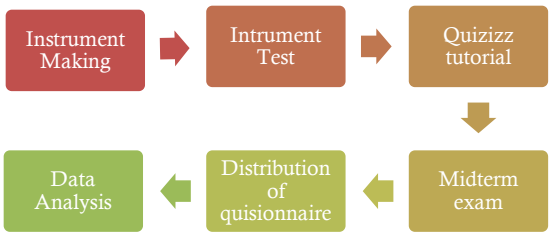


Figure 1. Research step

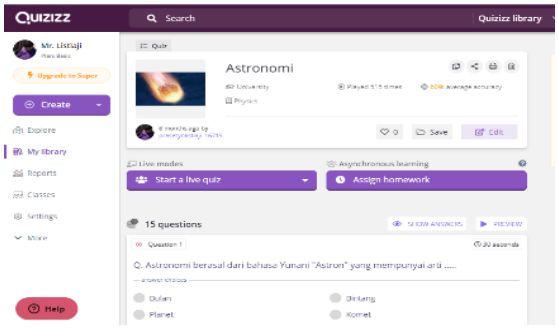
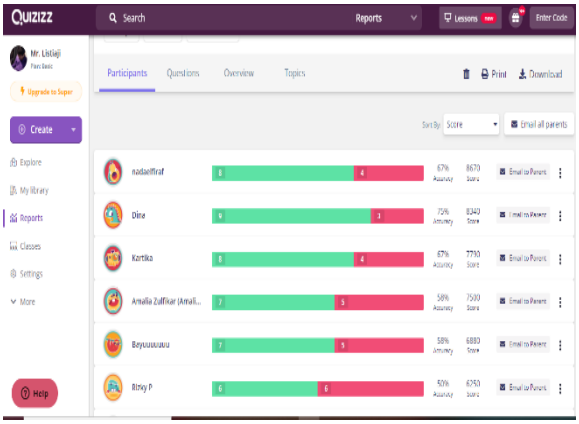


Figure 2. Display on the Quizizz applicationn

The midterm question consists of 15 multiple choice questions uploaded on the Quizizz application. The question display on the Quizizz application is shown in Figure 2.



The questionnaire given to students was in the form of 8 statements. Students answer questions with yes or no answers. The results of this questionnaire will show how students respond to using the Quizizz application for online assessment.

RESULTS AND DISCUSSION

One of the advantages of using the Quizizzapplication in lecture assessments is being able to provideinquiry design, control or supervision, and inspectionresults very quickly(Rahmad. *et al*, 2019).An example of the examination results can be seen in Figure 4.

Based on Figure 3, we can see that the Quizizz application can provide detailed student midterm report both in terms of accuracy and

final score (Zhao, 2019). The quiz also displays the student's ranking after completing one question. In addition, Quizizz allows you to scramble the questions that appear to minimize cheating (Rahmad. *et al*, 2019).

The example of questions is shown in Figure 3

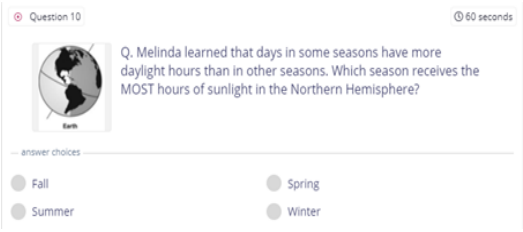


Figure 3. Example of Question in Quizizz

Figure4. Midterm student test report

The Quizizz application can display score cluster data into 3 parts, namely high, medium, and low. Students can achieve high score when they get score above the average score of class. Student achieve medium score when they get exactly the average score of class. Students can achieve low score when they get score under the average score of class. The Lecturers and teachers can also download the report data in the form of an excel file. Data on student midterm results in the astronomy course are shown in Table 1.

Table 1. Report of Midterm Exam with Quizz

Players	Score	Accuracy	Cluster
A1	8670	67%	High
A2	8340	75%	High
A3	7790	67%	High
A4	7500	58%	Medium
A5	6880	58%	Medium
A6	6250	50%	Medium
A7	6200	58%	Medium
A8	5690	50%	Medium
A9	5390	50%	Medium
A10	5330	50%	Medium
A11	4510	42%	Medium
Al2	3830	33%	Low
A13	3810	33%	Low
A14	3790	33%	Low
A16	3470	33%	Low
A17	3400	33%	Low
A18	3230	33%	Low
A19	2920	25%	Low
A20	2880	25%	Low
A21	2880	25%	Low
A22	2540	25%	Low
A23	2310	25%	Low

Based on table 1, students who get high accuracy scores in clusters have an average of 69.67% with a standard deviation of 4.61%. These results show that for high clusters no one has achieved good scores according to university standards (more than 81%). Furthermore, the number of students in the medium cluster is more with an average accuracy of 52% and a standard deviation of 5.56%.

Most students were in low clusters with an average accuracy of 28.36% and a standard deviation of 4.18%. After being confirmed, several factors that caused this unsatisfactory midterm result were anxiety about facing online exams, limited time, lack of understanding of the material and lack of preparation for online exams. This is consistent with research conducted by Rahmad. *et al* (2019).

The total mean accuracy for all students was 43.08% with a standard deviation of 15.83%. This accuracy value is classified as low if it is based on university standards where a value below 50% gets an E grade. Only 6 students scored above average (more than 50% accuracy) with a score of 58 (Grade B), 67 (BC Grade), and 75 (Grade B). Once confirmed, they are ready to take the online exam, but the use of quizzes is a new thing that makes them nervous and takes time to learn how to operate them.

One of the factors that causes a low score is a technical problem where students find it difficult to operate Quizizz because it is the first time. However, students interested in Quizizz because they can immediately see their score so that it becomes material for evaluation.

Tabel 2. Results of questionnaires on student responses to quizizz

No	Statement	Yes (%)	No (%)
1	Quizizz is easy-to-use for online exam	64	36
2	Quizizz reduces cheating	60	40
3	Quizizz test results are very objective	56	44
	online exams are great fun	56	44
4	I don't feel difficult and tense when I'm online	48	52
5	Quizizz increase my involvement on the Internet class	56	44
6	Doing exercises in class using Quizizz reduces interference caused by cellphones or other electronic devices.	64	36
7	Quizizz motivates me to read hard	56	44
8	Quizizz is suitable to be applied as an online assessment in a pandemic era	72	28

According to table 2, student responses to the use of Quizizz tend to be positive with the results of 7 statements getting positive responses of more than 50% of the total students. According to students' positive responses to the Quizizz, the application presents students with multimedia related forms where there is a combination of audio and visual forms. Multimedia messages use words and pictures that are meant to motivate learning (Mayer, 2002). From the table 2, we can take a conclusion that the average answers is yes, it means students have interested with Quizizz.

The highest positive response is the statement that the Quizizz application is very suitable to be applied as an online assessment in the pandemic era where students can access online exams from home without coming to campus. In addition, the detailed examination report function makes it very easy for teachers to work at home.

Another advantage of the Quizizz application is that the questions can be arranged to appear randomly so that each student will not get the same question at the same time. In addition, each quiz session given by the teacher or lecturer has a unique access code so that confidentiality is more guaranteed (Rahmad. *et al*, 2019). Quizizz is an interesting tool (Zuhriyah&Pratolo, 2020), alternative solution for a formative assessment system (Saleh&Sulaiman, 2019), and effective in evaluating learning performance (Zainuddin *et al.,* 2020). The other advantages are Quizizz can improve conceptual understanding in mathematics (Asfar&Asfar, 2020), improve students reading comprehension (Nanda *et al.,* 2018), and reduce anxiety (Pitoyo, 2019).

CONCLUSION

The use of the Quizizz application in online assessment in science learning in the pandemic era is very beneficial for teachers or lecturers because they can provide test results reports quickly along with their analysis. In addition, students responded positively to using the Quizizz application because they could answer right or wrong directly. The ranking of student examination results increased student motivation and interest.

REFERENCES

Asfar, A. M. I. T., & Asfar, A. M. I. A. (2020, October). Case-based games learning strategies to improve conceptual understanding in mathematics. In *Journal of Physics: Conference Series, 1663*(1), p. 012060). IOP Publishing.

Bal, Samet. (2018). Using Quizizz.Com To Enhance Preintermediate Students' Vocabulary Knowledge. *International Journal of Language Academy*, *6*(3), 295-303.

Baran, E. (2014). A review of research on mobile learning in teacher education. *Journal of Educational Technology & Society*, *17*(4), 17-32.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: principles, policy & practice*, *5*(1), 7-74.

Bury, B. (2017). Testing Goes Mobile–Web 2.0 Formative Assessment Tools. In *presented at the Conference proceedings. ICT for language learning*.

Dewi, Hartini. (2019). Application of Problem Based Learning Method to Improve Completeness of Learning Physics Aided by Quizizz Evaluation in Semester Credit System Schools. *Journal of Educational Partners, 3*(10), 1298 - 1313.

Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment

strategies. *The American Journal of Distance Education*, *21*(3), 117-132.

Gonzalez, AG. (2019). Real-Time Assessment Tool Implementation: Practical Experience With Kahoot !, Plickers And Quizizz. *Master's Thesis,* University of La Laguna, La Laguna.

Hamilton-Hankins, O. J. (2017). *The impact of technology integration on the engagement levels of ten second grade students in an English language arts classroom.*

Hikmat, H., Hermawan, E., Aldim, A., & Irwandi, I. (2020). *The Effectiveness of Online Learning During the Covid-19 Pandemic*: An Online Survey. LP2M.

Jamaluddin, D., Ratnasih, T., Gunawan, H., & Paujiah, E. (2020). *Online Learning during the Covid-19 Pandemic for Prospective Lecturers: Barriers, Solutions and Projections.*

Ju, S. Y., & Adam, Z. (2018). Implementing Quizizz as game based learning in the Arabic classroom. *European Journal of Social Science Education and Research*, *5*(1), 194-198.

Junior, João Batista Bottentuit. (2020). Assessment For Learning With Mobile Apps: Exploring The Potential Of Quizizz In The Educational Context. *International Journal of Development Research*, *10*(01), 33366-33371.

MacNamara, D., & Murphy, L. (2017). Online versus offline perspectives on gamified learning.*Presented at the GamiFIN*, 47–52.

Mayer, R. E. (2002). Multimedia learning. In *Psychology of learning and motivation*, *41*, 85-139. Academic Press.

Multiplayer Activity in the Accounting Classroom. *International Journal of Higher Education*, *8*(1), 37-43.

Nanda, S. R., Abdul, N. B., & Daddi, H. (2018). The Use Of Quizizz Application In Improving Students' Reading Comprehension Skill At SMKN 3 Takalar. *An Experimental Research, 1* (2).

Pitoyo, M. D. (2019). Gamification Based Assessment: A Test Anxiety Reduction through Game Elements in Quizizz Platform. *International Online Journal of Education and Teaching*, *6*(3), 456-471.

Porcaro, P. A., Jackson, D. E., McLaughlin, P. M., & O'Malley, C. J. (2016). Curriculum design of a flipped classroom to enhance haematology learning. *Journal of Science Education and Technology*, *25*(3), 345-357.

Purba, Leony Sanga Lamsari. (2019). Increasing Student Learning Concentration through Utilization of Quizizz Learning Evaluation in Physics Chemistry Subject I. *Educational Dynamics Journal, 12*(1), 29-39.

Rahmad, N., Lestari, A., Musa, L. A. D., & Sugilar, H. (2019, July). Quizizz Online Digital System Assessment Tools. In *2019 IEEE 5th International Conference on Wireless and Telematics (ICWT)* (pp. 1-4). IEEE.

Safitri, D., & Putra, Z. F. F. (2019). Empowerment of Teacher Groups in Making Quizizz Learning Media. *Proceedings of Devotion*, *1*(1), 1-6.

Saleh, S. M., & Sulaiman, H. (2019, December). Gamification in T&L of mathematics: Teacher's willingness in using Quizizz as an additional assessment tool. *In AIP Conference Proceedings*, *2184*(1), 030005. AIP Publishing LLC.

Sugilar, H., Farlina, E., Ariany, R. L., & Cipta, E. S. (2018). Membangun Matematika Sosial di era Digital. *PRISMA*, *7*(2), 177-185.

Suo, Y. M., & Suo Y. J., & Zalika, A. (2018). Implementing Quizizz As Game Based Learning In The Arabic Classroom. *European Journal of Social Science Education and Research*, *12*(1), 208-212.

Yuliana, Y. (2020). LP2M. Corona virus diseases (Covid-19): A literature review. *Wellness And Healthy Magazine*, *2*(1), 187-192.

Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W. (2020). The role of gamified e-quizzes on student learning and engagement: An interactive gamification solution for a formative assessment system. *Computers & Education*, 145, 103729.

Zhafira, N. H. (2020). Student Perception of Online Lectures as a Learning Tool. *Journal of Business and Management Strategy Studies, 4*(1).

Zhao, F. (2019). Using Quizizz to Integrate Fun Sugilar, H., Nuraida, I., Irwansyah, F. S., & Ramdhani, M. A. (2018, November).

Algebraic experience material with lectora inspire. In *IOP Conference Series: Materials Science and Engineering*, 434(1), 012268. IOP Publishing.

Zuhriyah, S., & Pratolo, B. W. (2020). Exploring Students' Views in theUse of Quizizz as an Assessment Tool in English as a Foreign Language (EFL) Class. *Universal Journal of Educational Research, 8*(11), 5312-5317.