



# Using Quizizz in Learning Assessment with Science Literacy Oriented in Science Learning

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## Abstract

In the covid-19 era, activities are forced to be done from home, including learning activities. Because of the limited network, students' interest in doing assignments becomes low. Thus teachers tend to ignore the assessment of learning outcomes during the pandemic. Even though assess learning outcomes is very important to do, one of them is a daily test which aims to find out the extent to which students understand the lesson. This study aims to determine the use of the Quizizz application with science literacy oriented as a media for assessing learning outcomes during the study. The research method used is applied research, namely by implementing the Quizizz application in science literacy for online assessment. The data collection method used was a questionnaire. Quantitative data collection was obtained with closed questions. Questionnaire is given after students doing daily tests using Quizizz with science literacy oriented. The daily test consists of 20 multiple choice questions of Motion with 10 literacy discourses. The result of daily test is divided into three part, namely high, medium and low. Based on the result of daily test 13 students who get high accuracy score, 9 students in medium cluster and 8 students in low cluster. Overall students give positive responses to using Quizizz with science literacy oriented and agree to be used in the daily test. Based on students perceptions, the use of Quizizz is very interest and science literacy help them remember what they have learned.. However, there needs to be assistance from the teacher when new students use Quizizz for the first time.

**Keywords:** Daily Test, Quizizz, Science Literacy, Science Learning

## 1. Introduction

In order to prevent the spread of the covid-19 virus, we are forced to limit our activities and stay away from crowds. This also has an impact on education which causes learning must be done online from home. As a result, various learning adjustments are made.

One of the most important parts of learning is the assessment and evaluation of learning outcomes. Evaluation is defined as selective exercise that attempts to systematically and objectively assess progress towards and the achievement of an outcome [1]. However, teachers have difficulty in assessing students' learning outcomes. To overcome this problem the teachers prefer an alternative assessment in the form of a portfolio assessment, but in the reality it was found that only a few students collect the assignments given by the teachers. Online learning makes students' interest in submitting assignments decline, because they are not directly supervised by the teachers. Meanwhile, for daily tests, teachers are more likely to eliminate them during the pandemic, this is by the reason of daily tests which have potential for students to cheat and are less effective since the teachers do not supervise students directly. In fact, daily tests are very important to do in order to find out the extent to which students understand the material that has been taught by the teacher [2].

To achieve educational goals, teachers must ensure that teaching and learning activities should be continued even though from home. Learning innovation is a solution that needs to be designed and implemented by teachers by maximizing existing media such as online media [3].

One of the innovations that can be done is by utilizing technological sophistication in accordance with the students, including the Quizizz application. Game Quizizz is a game-based educational app, which brings multi-game activities to the classroom and makes in-class practice interactive and fun. By implementing Quizizz Game, students can do exercises in class on their electronic devices. Quizizz games have game characteristics such as avatars, themes, memes, and music that have interesting effects during the learning process. Quizizz allows students to compete with each other and motivates them to learn so that learning outcomes can be improved. Students take quizzes at the same time in class and see their live ranking on the leaderboard [4] [5].



By using Quizizz, it is hoped that it can help teachers increase students' enthusiasm in taking daily tests. In line with research conducted by Zhao [6] The Students like the features of this app, especially the leaderboard, which shows the live ranking of their performance and motivates them to study. They agree that Quizizz helps them concentrate in class and reduces their test anxiety. They prefer doing in-class exercises using Quizizz than on paper [7].

## 2. Literature Review

Several previous studies have used the Quizizz application, such as Purba [8] 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. Mulyati & Evendi [9] in their research proved that Quizizz application can improve student learning outcomes. Khasanah & Lestari [10] in their research, This study's results have implications for choosing Quizizz media and the relationship between learning media interactions with students' learning independence.

Another research, Darmawan, Daeni, & Listiaji [11] uses Quizizz as an online assessment for science learning and concluded that online assessment using Quizizz is very beneficial for teachers or lecturers because they can provide test results reports quickly along with their analysis and increased student motivation and interest. Anak Yunus & Hua [12] in their research concluded that implementation of online interactive games such as Quizizz can be seen as an exhilarating, creative, and impactful means of shifting from the conventional way of imparting knowledge, especially to millennials. This educational game provides so many benefits that can certainly be felt in learning media, because this media is interesting and can motivate brain work and time management [13].

One of the demands of education today is to improve students' critical thinking skills. The critical thinking skill is very important for students to help them in solving problems. The critical thinking skill can be built through finding based learning using science literacy approaches, Science literacy is one of the parameters in determining the human development index which is strongly influenced by the quality of education [14]. Scientific literacy is an element of life skills that must be the key outcome of the education process for children aged 15 years. For that reason, children aged 15 years (towards the end of compulsory education) are deemed necessary to have an adequate level of scientific literacy, both for those who will continue their studies in the field of science or those who do not [15]. Science literacy should be applied because including one of the important abilities that must be owned by students and can be used to solve problems in life everyday that demands that one must scientific thinking [16].

Several previous studies have used the science literacy, such as Helendra & Sari [15] in their research proved that a scientific literacy-based assessment instrument on the excretory system and respiratory system material is feasible to use. Sutiani, Situmorang, & Silalahi [14] concluded that learning resource on inquiry learning model with science literacy has a significant contribution to improve students' critical thinking skills in chemistry and ultimately improve students' achievements. The effectiveness aspect in improving science literacy ability indicated by the N-gain score average of 0.88, which is in the high category [17] [18].

## 3. Method

The research method used is applied research, namely by implementing the Quizizz application in science literacy for online assessment. The subjects of this study were 30 students, SMPN 11 Jambi City in the Science learning. The instruments used were the online test questions for daily tests with learning multimedia Quizizz and questionnaire to see students' responses. Figure 1 shows the research steps.

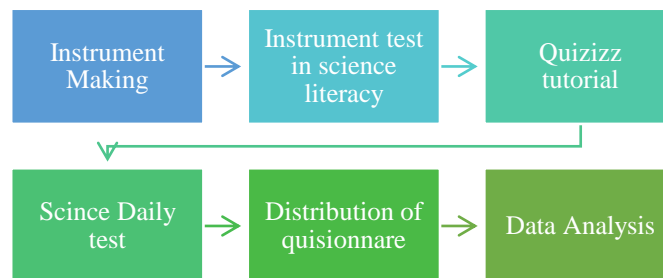


Fig 1. Research step

The daily test consists of 20 multiple choice questions of Motion with 10 literacy discourses on the Quizizz application. The questions displayed on the Quizizz application is shown in Figure 2.

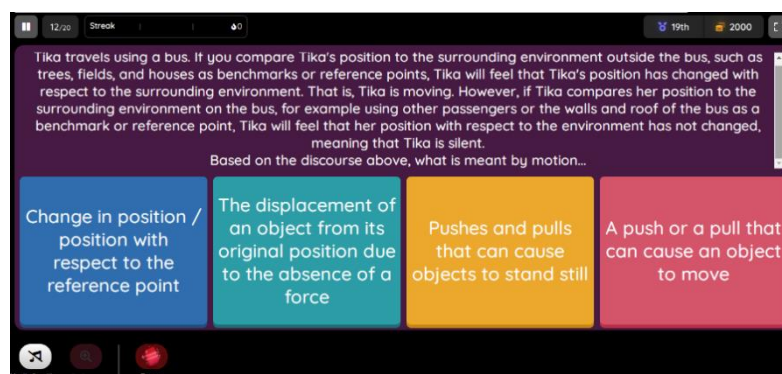


Fig 2. Quizizz display

The data collection method used is questionnaire. Questionnaire is given to students after doing daily test by using Quizizz application with science literacy oriented to figure out students' perception about daily test with science literacy. The questionnaire consists of 10 closed statements with multiple choice strongly agree, agree, disagree, strongly disagree. The Questionnaire given using google forms.

**Table 1.** Survey Questions

No.	Survey Questions
1	Quizizz is easy to use for daily test
2	Quizizz questions with scientific literacy help me remember what I have learned
3	Quizizz questions with scientific literacy improve my understanding of the material I'm studying
4	Science daily test using Quizizz is fun
5	Quizizz questions with Scientific Literacy increase my interest in doing science assignments
6	I am motivated to get the highest rank and score when using Quizizz
7	I feel more concentrated when answer the questions on Quizizz with science literacy oriented
8	using the Quizizz application can reduce cheating during science tests
9	I think the online test with the help of quizizz is going well
10	In my opinion, the daily science test with the help of science literacy-oriented quizizz takes place effectively and efficiently

## 4. Result and Discussion

Using the Quizizz application can also make learning and online learning fun. Teachers who give questions and take advantage of the features in the Quizizz application are able to attract students' attention so that students are happy in participating in the online learning process. One of the advantages of Quizizz is that the score can be seen directly and immediately after the test is carried out. We can see that the Quizizz application can provide detailed student daily test report both in terms of accuracy, final score and student's ranking after completing one question. According Haddar and Juliano [19] The advantages of using the Quizizz application can be seen directly and use of the Quizizz application can also evaluate students independently.

### 4.1. Result student tests using Quizizz with science literacy oriented

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 [7] [20]. From the results of student tests using Quizizz, the following results were obtained :

**Table 2.** Result of Daily Test with Quizizz

Player	Score	Accuracy	Cluster
Player 1	15280	80%	High
Player 2	12920	75%	High
Player 3	12920	75%	High
Player 4	12610	70%	High
Player 5	11840	70%	High
Player 6	11150	65%	High
Player 7	10890	65%	High
Player 8	10440	60%	High
Player 9	10420	60%	High
Player 10	10280	60%	High
Player 11	9930	60%	High
Player 12	9900	60%	High
Player 13	9420	60%	High
Player 14	8680	50%	Medium
Player 15	8590	55%	Medium
Player 16	8530	55%	Medium
Player 17	8370	50%	Medium
Player 18	8360	50%	Medium
Player 19	8320	50%	Medium
Player 20	8140	50%	Medium
Player 21	8080	50%	Medium
Player 22	7950	50%	Medium
Player 23	7940	45%	Low
Player 24	6190	40%	Low
Player 25	3420	35%	Low
Player 26	3400	35%	Low
Player 27	3220	20%	Low
Player 28	3150	25%	Low
Player 29	2950	20%	Low
Player 30	1950	20%	Low

Based on table 1, we can see that students who get the highest accuracy score is 80%. The average of students result of 52% with standard deviation of 16.15%. 13 students who get high accuracy scores in clusters have an average of 66.15% with a standard deviation of 6.83%. From the result three of students have achieved good scores according to school standard (more than 74%). In medium clusters there are 9 students with average of 51.11% and a standard deviation of 2.07%. While in low clusters there are 8 students with with average of 30% and a standard deviation of 9.3%.

As many as 13 students are in the high cluster, this shows that using Quizizz can improve students motivation. One of the reasons is because the questions are designed to be science-oriented, which can help students recall the lessons they have learned and students become more challenged when they see the leaderboard.

### 4.2. Student perception

There are several questions posed to students to get responses regarding the use of this Quizizz application.

1. Quizizz is easy to use for daily test

This Question aims to find out students' opinions about the ease of using Quizizz. Data on the ease of use of Quizizz are as follows:

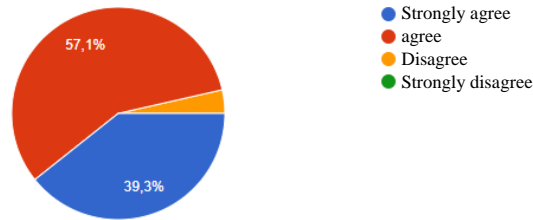


Fig. 3. Ease of use percentage

Based on figure 3. Questions related to the ease of using Quizizz with 39.3% of students answered strongly agree and 57.1%. With 96.4% of students agree, this shows that the student's response to the daily test using Quizizz is very good. According to students Quizizz is very easy to use for daily tests.

2. Quizizz questions with science literacy help me remember what I have learned

This question aims to determine students' perceptions of the question with science literacy oriented

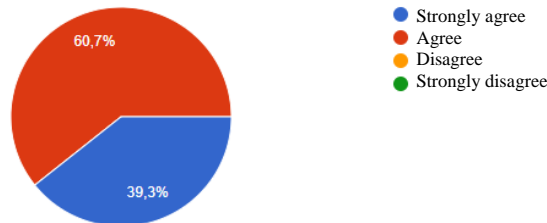


Fig. 4: science literacy

Based on figure 4, we can see that 60.7% of students agree that science literacy can help they remember what they have learned and 39.3% of students think that they strongly agree. This proves that students are helped by the existence of science literacy. While for the other 8 Question about students perception show by the following table 3.

Table 3. Result of survey questions

Survey Questions	Strongly agree	Agree	Disagree	Strongly disagree
Quizizz questions with scientific literacy improve my understanding of the material I'm studying	63.3%	33.3%	3.3%	-
Science daily test using Quizizz is fun	43.3%	50%	6.7%	-
Quizizz questions with Scientific Literacy increase my interest in doing science assignments	33.3%	56.7%	10%	-
I am motivated to get the highest rank and score when using Quizizz	46.7%	50%	3.3%	-
I feel more concentrated when answer the questions on Quizizz with science literacy oriented	33.3%	56.7%	10%	-
using the Quizizz application can reduce cheating during science tests	30%	53.3%	16.7%	-
I think the online test with the help of quizizz is going well	40%	53.3%	6.7%	-
In my opinion, the daily science test with the help of science literacy-oriented quizizz takes place effectively and efficiently	63.3%	30%	3.35%	3.35%

Based on tables 3 above most of the students answered with positive answers about using Quizizz with science literacy in science learning, such as Quizizz questions with scientific literacy improve my understanding of the material I'm studying, 63.3% students answer agree and 33.3% student answers strongly agree. On question Science daily test using Quizizz is fun, 50% students answer strongly agree and 43.3% students answer agree. According Swarniti [21] Quizizz application is a learning application that is fun, effective, not boring, varied, challenging, simple, and can be used anywhere. This proves that the use of Quizizz is fun in learning. On question Quizizz questions with Scientific Literacy increase my interest in doing science assignments, 56.7% student answer agree and 33.3% students answer strongly agree, while the other 10% student answer disagree.

## 5. Conclusion

Based on the results of this study, it can be concluded that in general Quizizz is very useful for daily tests. Daily test using Quizizz with science literacy can motivate students and make it easier for students to recall the lessons they have learned. Using Quizizz can reduce cheating and make online daily tests more effective. The existence of a leaderboard also attracts students' attention and they feel challenged to be at the top of the leaderboard.

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