

APPLICATION OF QUIZZ AS AN EVALUATION MEDIA ON DIGESTIVE SYSTEM MATERIALS

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ABSTRACT

This study examined to find out the review of media experts, teachers, and students on Quizizz and the increase of student learning outcomes to the application of Quizizz in 11th grade of Public high school majoring in science at SMA Negeri 1 Sumbul. The population of this study was 11th grade science students. The sample used in this study was 61 students using simple random sampling technique. The method used a descriptive mixed method. Data were collected using questionnaires and interviews, and student grade lists. The results showed that the application of Quizizz had received a score of 71 (good category) from media experts, a score of 91,2 (excellent category) from the teacher, a score of 94 (excellent category) from students, and N-Gain scores in student learning outcomes of 0,71 (high category). The highest N-Gain score was on the indicator of determining the nutritional content contained in foodstuffs by conducting a food test.

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INTRODUCTION

The quality of learning can be seen in terms of the process and terms of results. Learning in terms of process is said to be successful and qualified if all or at least most of the students are actively involved active, both physically, mentally, and socially in the learning process. The quality of learning in terms of results is referred to as evaluation. According to [Asru et al. \(2014\)](#), evaluation is a systematic and continuous process to determine the quality (value and meaning) of something based on specific considerations and criteria to make a decision.

The achievement of development needs to be measured, both the position of students as individuals and their position in group activities. Educators can develop the ability of these students by knowing what they will do from the beginning to the end of learning. One is that using technology as a media evaluation can help the continuity of student evaluation in learning ([Febriana, 2019](#)).

Evaluation media play a role in facilitating the work of educators to find out student learning achievement in every teaching and learning activity in the classroom, and it is also expected that able to motivate students to be more active ([Putri & Ermawaty, 2020](#)).

Various types of test evaluation media can be used to facilitate teachers and increase students' willingness to participate in evaluation activities during the current Covid-19 pandemic. One evaluation media that is easily accessible to teachers and students is Quizizz, an interactive test based on applications and websites. Quizizz has free complete lessons with activities included about different topics. The assessment is accurate, and educators do not have to spend much time grading activities. Quizizz provides feedback when a game is played, allows teachers and students to see where mistakes are during evaluation, and also has ways to entertain students between each question with memes. [Irwan et al \(2019\)](#) stated that interactive evaluation media can foster student interest because of innovation, attractive appearance, and designed to increase student involvement and participation so that they feel challenged and enthusiastic in participating in evaluation activities because nowadays, students are not interested in taking conventional tests.

Digestive system material in humans is one of the biological materials taught in 11th grade every semester. This topic has many abstract concepts that cannot be seen but occur in the body ([Ulfa & Rozalina, 2019](#)). However, it is miserable that the biology teacher at SMA Negeri 1 Sumbul still does not use online evaluation media. According to

[Sonjaya and Fadlurahman \(2018\)](#), the digestive system material requires students to understand the human digestive system's structure, function, and process. Implementing evaluation using print media such as exam papers will make students passive during the activity. Printed media that circulate also presents less explicit examples of images that lead to potential misconceptions among students. Therefore, we need an evaluation media that can display images and videos to facilitate the evaluation process in class so that it runs optimally.

Research on the application of Quizizz evaluation media on digestive system materials needs to be done so that in the upcoming evaluation activities, teachers and students can use evaluation media that can support the learning process both in real and virtual classrooms, such as in the current pandemic period. The interactive and fun Quizizz evaluation media feature makes it easier for students and teachers to carry out online evaluation activities. The problems described previously prompted us to research the application of Quizizz as an evaluation media on digestive system materials.

METHOD

This study was conducted at SMA Negeri 1 Sumbul. The research started from April to May 2021. The research population was all students of class 11th grade SMA Negeri 1 Sumbul, which consisted of 6 classes with 205 students. The sample used in this study was as many as 61 students using a simple random sampling technique. The study used a descriptive mixed method. The instruments in this study were questionnaires, interviews, and student grade lists. The score of the Expert, teacher, and student questionnaire will be analyzed for each question item using the following formula:

$$\text{Score review} = \frac{\text{Scores}}{\text{Maximum Score}} \times 100$$

Furthermore, the results of closed questionnaires that were analyzed and compared with the criteria of achievement based on the respondents' scores can be seen in Table 1.

Table 1. Criteria for achievement of questionnaire results

No	Score	Category
1	0 - 20	Very Bad
2	21 - 40	Bad
3	41 - 60	Good
4	61-80	Very Good
5	81-100	Excellent

Source: ([Riduwan, 2016](#))

Interview transcript data were analyzed descriptively based on the answers given by students in an interview that had been conducted. The analysis of learning result data in this study consists of pretest data analysis, posttest data analysis, and gain analysis. The students' test scores were converted into a grade form with the following formula:

$$Scores = \frac{\text{number of Result Scores}}{\text{Maximum score}} \times 100$$

Once the students' scores had been known, a normalized Gain calculation was carried out to see the increase in student learning outcomes.

$$g = \frac{T_2 - T_1}{100\% - T_1}$$

(Susanto, 2012)

Note:

g : N-gain Score

T₁ : Pretest Score

T₂ : Posttest Score

The interpretation of N-Gain is shown in table 2.

Table 2. N-Gain criteria

N-Gain Range	Category
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium
$g < 0,3$	Low

Source: (Arini, 2016)

RESULTS AND DISCUSSION

Evaluation activities for learning digestive system materials using Quizizz media conducted in 11th grade of Public high school majoring in science at SMA Negeri 1 have been going well. It can be seen from the review of media experts, teachers, and students; and the N-Gain score obtained from calculating students' pretest and post-test grades.

Based on the expert's review results, it can be concluded that Quizizz media is goodly used as an interactive evaluation media to increase student learning motivation. Students get a pleasant learning experience without reducing the clarity of the presentation of information and messages between teachers and students during the evaluation process. In other words, Quizizz plays a significant role in facilitating evaluation activities to be more optimal. By [Kurniawan et al \(2019\)](#), Quizizz is an alternative media to see students' conceptual understanding interactively and flexibly. This creative, innovative, challenging, and fun evaluation activity will increase positive motivation for children to learn ([Aini, 2019](#)).

The results of the media expert's review to Quizizz as an evaluation media used in human digestive system material can be seen in Table 3.

Table 3. Media Expert's Review to Quizizz Evaluation Media

No	Aspect	%	Category
1.	Learning Design	83,3	Excellent
2.	Visual Communication	75	Very Good
3.	Software	86,4	Excellent

The features and services provided by Quizizz are why teachers positively reviewed this medium. Quizizz media is beneficial for teachers in preparing test questions and monitoring evaluation activities to provide reviews of learning outcomes. The critical feature helps teachers to prepare questions related to the material to be tested. Quizizz is a database containing hundreds of quizzes that can be accessed, and teachers can use or edit them to meet evaluation needs. When creating the quiz, the teacher can add images and adjust the feedback students see after answering questions on the quiz. Quizzes can be organized into collections to make them easier to find and set. Feedback appears in the teacher's memes (either premade or custom-made) that are displayed based on right or wrong answers. My Quiz menu can be used to monitor students' work during evaluation activities. All the features owned by Quizizz become a solution to the problems faced by teachers when using conventional media. Looking at the weaknesses of conventional assessment, namely the cost of procuring paper for problem doubling, less effective and efficient correcting time, and errors when correcting, makes Quizizz the suitable medium to be used during evaluation activities. Researched by [Munawaroh \(2021\)](#) supported that the application of Quizizz online media evaluation contains principles that make it easier for teachers to process and get positive responses from students.

The results of the teacher's Review to Quizizz evaluation media can be seen in Table 4.

Table 4. Teacher's review to material evaluation aspects and quizizz usage

No	Aspect	Score	Category
1	Topic Evaluation	93,7	Excellent
2	Media Usage	90,6	Excellent

In the aspect of the ability of the Quizizz media application purpose, aspect got a score of 92,2 from the student. Excellent reviews from students were obtained because Quizizz helped them understand the general picture of the lesson, gamification-based media with exciting features and services such as player characters, game themes, memes, audio, animation, and videos which can be selected directly by students so that they can reduce tension while doing tests.

Students gave a score of 99,1 on the exciting aspect. Excellent reviews were obtained because, according to students, the material evaluation activities of the human digestive system using Quizizz media made it more vibrant, the learning, the experience became delightful and provided encouragement in achieving maximum learning outcomes. [Dewi's \(2018\)](#) opinion on the use of game-based media, such as Quizizz game media, has good potential to be used as a suitable learning medium because it can stimulate visual and verbal components. [Wibawa et al \(2019\)](#) also stated that the application of Quizizz built students' motivation and enthusiasm. When motivation increases, students will be more focused during the activity.

Students' perception aspect obtained a score of 92. Based on students' reviews, it was known that Quizizz media provides convenience without making the media feel boring for students participating in the evaluation of human digestive system material. This medium was equipped with music that provides calmness, funny memes, encouragement, and support, as well as theme designs that can be selected according to the user's wishes (students) to reduce the sense of tension and create the impression of fun and interactive evaluation. Supported by [Kerrigan \(2018\)](#), learners are more interested in using Quizizz media in conventional media that was commonly used previously in learning evaluation activities.

Table 5 shows students' reviews of the application of Quizizz as an evaluation media.

Table 5. Students' review to Quizizz implementation

No	Aspect	Score	Category
1	Media application purpose	92,2	Excellent
2	Interest	99,1	Excellent
3	Students' perception	92	Excellent
	Mean	94	Excellent

Based on the analysis of learning data on human digestive system materials, pretest and post-test average scores of 40,1 and 81,5. After students' test scores had been known, the normalized Gain (N-Gain) was calculated to measure the increase between pretest and post-test scores. Based on the calculations that had been done, it was known that the highest N-Gain score was on the indicator of determining the nutritional content contained in foodstuffs by conducting a food test of 0,5 in the medium category. The increase in scores is due to Quizizz media can help teachers deliver question material

in the form of pictures, tables, animations, and food test videos that can stimulate students' memory during evaluation; therefore, students understand what is asked by the question. [Munawaroh \(2021\)](#) said that Quizizz has various kinds of features. It is also practical, economical, and modern. Quizizz media evaluation can solve the limitations of using media such as exam papers.

The lowest N-Gain score is a problem on indicators of the analysis of food substances needed by the human body every day from various sources of information, as well as the consequences caused by the excess or deficiency of the substance. The N-Gain score obtained on the matter is 0,02; this indicates that the increase in the problem score is in a low category. The low N-gain score can be caused by the following, namely: 1) the form of presentation of the same problem between pretest and posttest that only uses text without images and audio; 2) Evaluation using Quizizz is time-bound so that there is competition between students in answering each question; and 3) some students say they suddenly quit the quiz and challenging to revisit so miss the chance to answer the question. It is under the theory that states that there are five deficiencies in Quizizz. One of these shortcomings is that it is challenging to revisit the test ([Munawaroh, 2021](#)).

While the sizeable N-Gain score of student learning outcomes is 0,71 in the high category, the high score of N-Gain states that Quizizz as a medium of learning evaluation plays a vital role in providing convenience and facilities in the exchange of information between teachers and students, so that both students and teachers will be more passionate in following the teaching and learning process in the classroom. Sensory, space, and time limitations on the process evaluation activities of the digestive system amid a pandemic can be overcome with Quizizz. Objects learning the material of the human digestive system are too large such as the torso, objects that are too small, very complicated processes such as the mechanism of digestion of carbohydrates and fats, and also experiments that cannot be done can be replaced with attachments of images, photos, audio, presentation slides and videos at Quizizz. [Purba \(2019\)](#) stated that video and audio on Quizizz can help students to be more challenged while working on problems given by teachers. [Yan Mei et al \(2019\)](#) prove that Quizizz effectively improves student learning outcomes. Quizizz helps students to be able to concentrate well and become more active in answering the teacher's questions.

The packaging of the features offered by Quizizz distinguishes it from conventional evaluation media and other online quiz media, some of which are feedback in memes and music. Memes are helpful to provide reinforcement and feedback for every student when answering right or wrong questions. The music is new and fun. Evaluation activities with Quizizz on digestive system materials present an entertaining and cheerful atmosphere but still provide calm so students can focus on their tests. Labeling that evaluation activities are a fear, burden, and boring thing no longer disturbs the students' minds with Quizizz in learning evaluation activities.

During the implementation of the Quizizz media application, several obstacles interfered with the evaluation activities, namely a slow internet network, limited devices that could be used, and some students who did not understand how to access Quizizz.

CONCLUSION

Based on the result conducted, it was obtained that the application of Quizizz evaluation media on digestive system material has received a media expert's review with an average percentage of 71% in the good category; teacher's review of 91,2% in an excellent category; students' review by 94% in the category is excellent; and student learning outcomes with a gain score of 0,71 in the high category.

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