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Developing Quizizz-Based Learning Media on Digestive System Materials

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Abstrak

Dibutuhkan inovasi media dalam pembelajaran yang tepat dengan tujuan alat bantu peserta didik agar materi yang diajarkan dapat mudah dipahami peserta didik, sehingga dapat tercapainya tujuan pembelajaran yang diharapkan. Hal ini menjadi motivasi bagi sekolah maupun guru dalam waktu yang relatif singkat untuk melakukan inovasi dalam pembelajaran. Penelitian ini bertujuan untuk mengetahui tanggapan dan kelayakan ahli materi dan media, serta tanggapan guru dan siswa terhadap media Quizizz dalam pembelajaran pada materi ajar Sistem Pencernaan yang dikembangkan. Metode penelitian yang digunakan adalah metode penelitian dan pengembangan/ Research and Development. Subjek yang terlibat dalam penelitian ini adalah peserta didik dengan materi yang digunakan yaitu materi Biologi tentang Sistem Pencernaan. Kesimpulan penelitian ini bahwa tanggapan ahli materi terhadap media Quizizz pada pembelajaran online materi ajar sistem pencernaan kelas XI termasuk dalam kriteria sangat layak dengan persentase yang diperoleh sebesar 96%. Tanggapan ahli media, media pembelajaran yang dikembangkan termasuk dalam kriteria sangat layak untuk digunakan dengan persentase yang diperoleh sebesar 94,5% Respon guru terhadap media yang digunakan, didapatkan persentase 94,4%. Sedangkan respon siswa terhadap penggunaan media Quizizz sangat baik ditunjukkan dengan persentase rata-rata 91,5%.

Kata Kunci: Media Pembelajaran; Pengembangan Media Pembelajaran; Quizizz; Media Pendidikan

Abstract

It requires media innovation in appropriate learning to assist students in comprehending the subject taught so that the intended learning outcomes can be achieved. It motivates schools and teachers to innovate in education relatively quickly. The study aimed to determine the responses and appropriateness of material and media experts as well as teachers and students to the Quizizz media for learning the developed Digestive System teaching materials. The study was conducted using research and development (R&D). The participants in this study and the content used were on the Digestive System. With a score of 96%, the study concluded that the material experts to the Quizizz media in online learning of digestive system teaching materials for XI class met the very good category. The media experts indicated that the developed learning media met 94.5% for being highly usable. The percentage of teachers who responded to the used media was 94.4%, while students' responses to the use of Quizizz were very good, reaching 91.5%.

Keywords: Learning Media; Developing Learning Media; Quizizz; Media of Education

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INTRODUCTION

Education has a crucial function in enhancing the quality of human resources. The level of achievement in the field of education can influence the success or failure of a nation (Jenilan, 2018). The outbreak of COVID-19, which deploy global, including in Indonesia, has impacted the education field (Mansyur, 2020). Due to restrictions on various activities, the COVID-19 pandemic situation saturates student learning. In order to meet the intended outcomes, media innovation is required in appropriate learning to assist students in acquiring more content, especially in a pandemic situation such as the current one. It motivates schools and instructors to implement innovations in learning that may be conducted anywhere and at any time in a relatively short period (Sadikin & Hamidah, 2020).

The growth of sophisticated technology has become fast and rapidly used in every aspect of life, including as a learning medium and resource. The advantages of learning media are that it makes learning so much more enthusiastic for students to learn (Yaumi, 2021). It will present a great deal of new material that can be employed as the most recent, practical learning media and attract the students' intention during the learning process. Moreover, it is highly adaptable and easy to access from anywhere and at any time (Ritonga et al., 2020).

Learning is a significant activity in the educational process to create behavior and changes in students themselves. There are cognitive, emotional, and psychomotor alterations. Where this learning activity encourages teachers and students to communicate interactively, in addition to concept comprehension, material mastery, and attainment of student learning outcomes, this learning process can be deemed successful.

Learning is a significant activity of the educational process, as it influences student behavior and identity. There are cognitive, emotional, and psychomotor adjustments. These learning activities encourage teachers and students to communicate interactively. In addition to concept comprehension, material mastery, and attainment of student learning outcomes, this learning process can be deemed successful (Uhik, 2020).

The learning process can occur at any time and location, not only in the classroom, outside of the school, and even at home. The utilization of information technology can also aid in the learning process; teachers can use information technology as a medium for online learning or learning conducted without face-to-face interaction (Sadikin & Hamidah, 2020). It is highly pertinent to the current situation since the globe is being rocked by the spread of the Coronavirus, also known as the COVID-19 Disease (Dewi et al., 2019; Sadikin & Hamidah, 2020). The COVID-19 Pandemic has altered the global behavioral patterns of humans. As a result of the COVID-19 outbreak, everyone is compelled to practice physical separation. Physical Distancing is the restriction of physical contact between individuals to contain the COVID-19 Pandemic. Due to physical restrictions, every individual is compelled to work from home, including in the education sector, where all teaching and learning activities are conducted from individual residences (Pujilestari, 2020).

The Minister of National Education and Culture (Mendikbud) issued circular letter No. 4 of 2020 regarding the Implementation of Educational Policies in the Emergency Period for the Spread of the Corona-19 Virus Disease in response to the impact of the emergence of the virus on the field of education (Mansyur, 2020). To stop the outbreak of the COVID-19 virus, the government suggested introducing online learning techniques and eliminating school-based learning activities. Online learning is a program for implementing online classes in order to reach a large and diverse audience. Learning can be pursued through an organized network for free or a fee. Even though learning is offered online during the COVID-19 Pandemic, teachers remain decisive in achieving educational goals. With the aid of tools, media, or software used in their schools, a teacher must also be highly creative and imaginative for students to grasp the principles being taught (N et al., 2021).

In the context of education, teachers play or make a significant strategic contribution. Online learning can also be conducted from various locations without needing physical contact (Ritonga et al., 2020). In the field of education, it is anticipated that online learning will be able to solve challenges that arise during a pandemic in the teaching and learning process (Firman & Rahayu, 2020). It is believed that by employing contemporary technologies such as smartphones, computers, internet networks, and platforms, the solution can be optimized.

Educators and students must acquire new behaviors to teach and learn from their different locations. Online education has numerous obstacles. Because students do not participate in face-to-face learning, one of the obstacles is their decreased concentration. In addition, online learning duration is minimal. Thus there is a need for media that can motivate students to remain focused on their studies (Hamid et al., 2020). Media is a medium used to carry messages from the sender to the recipient to stimulate students' ideas, feelings, attention, interests, and abilities or skills to attain learning objectives efficiently (Yaumi, 2021).

The online learning approach has both positive and negative effects. Online education necessitates that teachers offer content in the most imaginative manner possible. The online learning process is complicated, particularly for high school students. In this online learning process, not only are professors and students involved, but the involvement of parents is also crucial. Parents are needed to participate in the online education process. Learning is a human endeavor that will persist as long as humans exist. It demonstrates that learning is not restricted by time, place, or age, regardless of gender. Learning is the aid supplied by educators that enables pupils to acquire knowledge and information, develop skills and habits, and establish attitudes and beliefs. It can be claimed that learning is a process that aids students. It is also possible to understand the learning process as a sequence of interactions between students and teachers to achieve learning objectives or to say that learning is the process of instructing students (M. Yunus et al., 2021).

Using e-learning-based media in teaching and learning activities is one way that teachers can remain responsible for students' development in the teaching and learning process. Learning media based on e-learning is an example of the use of information and communication technology that can be used as a means for teachers and students to facilitate a learning process to achieve learning objectives. One type of e-learning found in Indonesia is Quizizz. Quizizz is a game-based educational application that brings multiplayer activities into the classroom and makes classroom practice interactive and fun (Yaumi, 2021). Quizizz is a multiplayer quiz application that can also deliver short lessons through slide shows and quizzes that can be accessed on any smartphone. The Quizizz application developed as an e-learning-based learning media, especially online learning, is expected to increase students' motivation and maximize online learning (Wahyudi et al., 2020). Through the increase of exciting and fun learning experience, Quizizz application media for learning with the application of the "learning" while playing" system" it is hoped that it can become a special attraction in the learning process (Chabib Dwi Kurniawan & Misbachul Huda, 2020).

Quizizz is a fee-based, game-based website for educational purposes (Wahyudi et al., 2020). Quizizz is one of the media used to practice and study online so that online learning is always successful and students are never bored (C. C. A. Yunus & Hua, 2021). The features of Quizizz allow students to exchange practice experiences and enable teachers to design modules or challenges for online learning assignments (Lim & Yunus, 2021; Zhao, 2019). The Quizizz learning platform makes it simple for professors to share class questions, allowing students to ask questions on a predetermined date, with no obligation accumulated in online learning (Lim & Yunus, 2021).

Quizizz is an educational game application with a narrative and adaptable nature; it may also be used to present content. Quizizz can also be an engaging and entertaining evaluation tool for learning. Students can quickly become bored with their at-home educational activities. With the ease of access to learning media, teachers can utilize and then create evaluation media through the Quizizz application to attain education goals (Uhik, 2020).

Based on my observations at the Karyatani Private High School, one of the schools in the Panai Hulu subdistrict, the researcher got the information regarding the research. Karyatani Private High School frequently hosts arts-related events due to the artistic engagement of the school. However, the learning method at Karyatani Private High School has adhered to traditional, teacher-centered education. According to the results of interviews the researcher performed with the Biology teacher of the tenth-grade class at science major in Karyatani Private High School, the learning thus far has been conducted as usual. Due to the limitations of learning media in the school, the teaching and learning process remains teacher-centric.

In the current New standard era, schools carry out learning with a wavy system. With the undulating system, the school issued a policy to reduce study time so that all students could carry out the learning process well. However, the learning process is less effective because of the limited time for students to study face-to-face.

We hope that the Quizizz game-based learning media will encourage instructors at Karya Tani Private High School to employ technology as a learning resource because this Quizizz game includes numerous customizable features that can be tailored to the information that the teacher will teach the students. To assist teachers in overcoming the constraints of teaching and learning activities during the COVID-19 Pandemic, there is a need for innovation in the process of developing the learning media (Yaumi, 2021). The study aims to determine the responses and feasibility of material and media experts, expert practitioners' practical responses, and students' responses to Quizizz media in learning the created digestive system teaching materials.

METHOD

The study method employed was the research and development (R&D) method, which was used to develop and validate existing or new goods and discover knowledge or solve problems. The used development model adapted the 4D development model because it was a systems-based development paradigm. The systems approach was intended to improve the efficacy of learning. It was an effective instrument for planning educational equipment that was fit for learning outcomes, child characteristics, and teaching and assessment activities. The participants in this study were eleventh-grade students in senior high school who were taught content on the Digestive System. Quantitative and qualitative types of data were collected for this study. Through data collection, questionnaires were used for replies from media and material experts, practitioner experts, and student responses, using a Likert scale. Observations and interviews with biology teachers were previously conducted.

RESULTS AND DISCUSSION

Validity analysis

Validity analysis was based on the results of the validator, which was assessed from the assessment of material expert and media expert. The validation analysis was carried out by

$$(\%) = \frac{\text{the gained score}}{\text{maximum score}} \times 100 \%$$

Validation results with known percentages can be modified based on the validation criteria shown in the table below.

Table 1
Validation Criteria

Percentage (%)	Criteria
80,00 – 100	Very Good
60,00 – 79,99	Good
50,00 – 59,99	Fairly
00,00 – 49,99	Poor

Source: (Riduwan, 2020)

If the % matches the criteria qualification table, it is included as a criterion that meets the criteria for using suitable learning media. The Following is a table of media expert questionnaires on Quizizz learning for digestive system-related content:

Table 2
Table of Quizizz Learning Media Expert Questionnaire Table

No	Expert Name	Question / Statement										Total	Max. Score	%
1	Validator 1	1	2	3	4	5	6	7	8	9	10	48	50	96
		5	4	4	5	5	5	5	5	5	5			

According to the data presented, the study has a conformity rate of 96% and is rated as a very good category. In terms of media, media experts responded to the evaluation of learning media products. It was done to ensure that the outcomes of the product were applied to the learning process. If matched with the criteria table for the qualification, the percentage obtained was incorporated in very good criteria for beneficial learning material. According to the recommendations of media experts, it was essential to improve the slide show in the study guide section, fix typographical problems in the media, add pictures and videos, and redesign the slide show content. Following are the results of the evaluation conducted by subject matter experts on the Quizizz learning material for the digestive system:

Table 3
Table for Expert Questionnaire Regarding Quizizz Learning Media Material

No	Expert Name	Question / Statement											Total	Max Score	%
1	Validator 2	1	2	3	4	5	6	7	8	9	10	11	52	55	94,5
		5	5	5	5	4	5	5	4	4	5	5			

According to Table 2, the study had a conformity rate of 94.5% and was rated as a very good category with high eligibility criteria. The outcome is in line with the study's observations, which indicated that the product of learning media was validated and attractive. Generally, validation results from subject matter experts in the field of study are 90% accurate. It is since the graphic component, and compliance with technological standards are excellent categories. Thus, the validation results can be used as a standard for the material viability of developing media. The researcher used the validators' comments and suggestions to develop learning materials suitable for use by both teachers and students (Wahyudi et al., 2020). Following are the findings of the evaluation conducted by subject matter experts on the Quizizz learning material for the digestive system:

Table 4
Table of Quizizz Learning Media Practitioner Expert Questionnaire

No	Expert Name	Question / Statement														Total	Max	%
1	Validator 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	64	70	91,4
		5	4	5	5	4	4	4	5	5	5	5	4	4	5			

According to Table 3, the study had a compliance rate of 91.4% and was rated as a very good category with eligibility criteria. In line with the previous study, the learning media product was validated and in the attractive category (Chabib Dwi Kurniawan & Misbachul Huda, 2020). Following are the results of the student's responses

Table 5
Student Questionnaire Table on Quizizz Learning Media

NO	Res	QUESTION/STATEMENT										TOTAL	MAX SCORE	%	PERCENTAGE (%)
		1	2	3	4	5	6	7	8	9	10				
1	R1	5	5	5	4	5	5	5	4	5	5	48	50	96	91,5
2	R2	5	5	5	4	5	5	5	4	5	5	48	50	96	
3	R3	4	5	4	4	4	4	5	4	3	4	41	50	82	
4	R4	4	5	4	4	4	4	5	4	3	4	41	50	82	
5	R5	5	5	5	5	4	5	5	4	5	5	48	50	96	
6	R6	5	5	5	4	5	5	5	4	5	5	48	50	96	
7	R7	5	5	5	4	5	5	5	4	5	5	48	50	96	
8	R8	5	5	5	4	5	5	5	4	5	5	48	50	96	
9	R9	4	4	3	4	4	4	4	4	4	4	39	50	78	
10	R10	4	4	4	3	3	4	4	4	3	4	37	50	74	

11	R11	4	5	5	4	5	4	3	5	4	5	44	50	88
12	R12	4	5	5	5	5	4	5	4	5	5	47	50	94
13	R13	3	2	5	5	5	4	5	4	5	5	43	50	86
14	R14	5	5	4	4	4	5	5	4	5	5	46	50	92
15	R15	4	5	4	4	4	4	5	4	3	4	41	50	82
16	R16	4	5	4	4	4	4	5	4	3	4	41	50	82
17	R17	4	5	4	4	4	4	5	4	3	4	41	50	82
18	R18	5	5	5	4	5	5	5	4	5	5	48	50	96
19	R19	5	5	5	4	5	5	5	4	5	5	48	50	96
20	R20	5	5	5	4	5	5	5	4	5	5	48	50	96
21	R21	5	5	5	4	5	5	5	4	5	5	48	50	96
22	R22	5	5	5	4	5	5	5	4	5	5	48	50	96
23	R23	5	5	5	4	4	4	5	5	5	5	47	50	94
24	R24	5	5	5	4	4	4	5	5	5	5	47	50	94
25	R25	5	4	5	5	4	5	5	5	5	5	48	50	96
26	R26	5	4	5	5	4	5	5	5	5	5	48	50	96
27	R27	5	5	5	4	5	5	5	5	5	5	49	50	98
28	R28	5	5	5	4	5	5	5	5	5	5	49	50	98
29	R29	4	5	5	5	4	5	5	5	5	5	48	50	96
30	R30	4	5	5	5	4	5	5	5	5	5	48	50	96

According to the results of a survey of 30 students, 91.5% of respondents believed that Quizizz was able to boost the spirit of learning and the ability to strive for the highest score. It is because using the Quizizz program makes learning more enjoyable than the prior teacher-centered or conventional method. When they answered correctly or incorrectly, students' participation in the learning process when implementing the Quizizz platform is very enthusiastic. The existence of learning videos, images, and sounds in a single Quizizz web media can facilitate the improvement of the learning process for students because, besides the teacher's explanation, students can also watch, listen to, and focus on the videos on the media. So that the website media can be developed and utilized as a learning alternative.

Internet connectivity is a barrier to using the Quizizz application. Due to the difficulty of connecting to the internet network, the use of the internet quota to access the Quizizz application is also a barrier. The benefits of using the Quizizz program enhance the diversity and effectiveness of online learning. The benefits of using the Quizizz program are readily apparent for all types of point values, including video, graphics, and audio. The application Quizizz can also be used to evaluate students independently. The sole purpose of the Quizizz program is to assess students' ability in the cognitive domain (Zhao, 2019). Quizizz can generate original, inventive, and entertaining learning media; therefore, it should be utilized as a learning medium (C. C. A. Yunus & Hua, 2021).

Findings from this study, it can be stated that the Quizizz online learning media application is extremely useful for the cognitive growth of students when using digestive system-related teaching materials. The usage of educational game website media, such as quiz media and crossword puzzles, in online learning produces results that can affect students' higher-order thinking skills (Zhao, 2019). Diverse scientific material in the media can promote the intellectual process and critical thinking of students. Develop interactive learning materials utilizing the Quizizz application for Android. According to the research, the Quizizz application as a learning medium can achieve the following results: (1) Student's attention when using cell phones in the learning process; (2) Student's understanding when independently comprehending questions; (3) Activeness, both in asking for material and evaluating and taking notes on material; (4) student's determination in asking questions and time management; and (5) student's calmness when completing questions or quizzes. Thus, it can be stated that the Quizizz application media is utilized in the quiz learning process in a highly successful manner (Wahyudi et al., 2020). The outcomes of this development and past study, if relevant, indicate that this

development is amenable to further research.

CONCLUSION

With a score of 96%, the research indicated that the content expert response to the Quizizz media in online learning with digestive system teaching materials had met the very good criteria. The media experts indicated that the developed learning media had met 94.5% of the criteria for being highly usable. The average percentage of the teacher response to the use of Quizizz media was 91.4%, indicating a positive response. With a response rate of 91.5% from students using the Quizizz media, it can be claimed that it is a very useful tool.

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