Development of Learning Media Using Quipper School Application On Maintenance Of Motorcycle

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Abstract; There is no availability of learning media using the Quipper School application at SMK Negeri 1 Kinali,and student learning outcomes have not been optimal. This research aims to develop learning media and produce a valid, practical and effective medium on the eye material of motorcycle engine maintenance training in class XI TBSM. This research uses Research *and Development* (R&D) design, with a 4D development model. 4D development procedures namely *Define* (Defining), Design *(Design), Develop* (Development) and *Disseminate* (Deployment). The results obtained from this development research are learning media using the Quipper School application. Based on the findings of this study it can be concluded that the developed media is declared valid on the media aspect 88%, the material aspect with a result of 86%. The media developed practically with practicality values from teacher response with results of 92% and student response 89.96%, as well as effective in improving student understanding obtained from classical completion calculations obtained by above KKM ≥ 75 with a result of 93%. The conclusion is that *android-based* learning media developed can be used and feasible on the learning process to improve student learning outcomes.

Keywords: Learning Media, *Quipper School, Motorcycle*

INTRODUCTION

Learning media is a useful tool or mediator to facilitate the teaching and learning process and optimize communication between teachers and students. This greatly helps teachers teach and makes it easier for students to take and understand lessons. This process requires teachers who are able to coordinate learning media and learning methods. The use of classroom media in the teaching and learning process can also cause new desires and interests for students, give rise to learning motivation and even have a psychological impact on students. In addition to increasing student learning motivation, the use or use of media can also improve students' understanding of the classroom.

Learning Motorcycle Machine Maintenance in this process can not be denied that the learning media is needed so that educators more easily convey material. But the reality is that in this field there are still many educators who underestimate this. One of the materials taught to students is the periodic maintenance of valve mechanisms. This material uses simple learning methods such as lectures, conventional and limited learning media.

On August 2, 2020, an interview was conducted with educators from the department of Teknik Bisnis Sepeda Motor SMK Negeri 1 Kinali. Educators in the classroom learn more about theory from the playbook used, then give joobshets and practice students without using interactive, engaging, and entertaining media and without boring learning. As a result, the topic of motorcycle machine maintenance training courses becomes legible and students can only imagine the cause and effect of a motorcycle job. "When the physical phenomena discussed are experienced by students, students can reconstruct them for a better understanding"[1].

E-learning-based media helps improve the quality and quality of learning. One type of e-learning is Quipper School. Its an application that contains a variety of materials and topics provided by the government in all schools. This service is also free to make it easier for teachers to upload materials, tasks, and do homework. Problem training, monitor student activities or exams in class with a set time.

The development of learning media using the Quipper School application that has been carried out by Supriani [2] is to create "products in the form of learning media equipped with video, images, text and evaluation, then on research products produced using this learning media equipped with images, videos, texts, evaluations and moving animations. The product is also equipped with evaluation problems along with the results of the score obtained by learners after they finish answering the problem, so that learners can know the extent of their ability to solve the problem.

LITERATURE REVIEW

Learning

Learning is a set of actions designed to support the student's learning process, considering the internal events that take place in students [3]. Learning also has stages that will become a reference to determine the type of learning materials, learning strategies, learning methods, and learning media [4]. Without a clear goal, learning will be a directionless, focusless and ineffective activity (Latifah, 2015).

Learning Media

Understanding learning media

Media comes from the word medius which means middle (Azhar Arsyad, 2011:3). The word media also comes from latin which is literally interpreted as "intermediary". Media can be directed at something that can forward information between the person who gave the message and the person receiving the message.

[1] Miftahul Huda and MMPD Pembelajaran, "Pustaka Pelajar" (2014).

[2] Yani Supriani, "MENUMBUHKAN KEMANDIRIAN BELAJAR MATEMATIKA SISWA BERBANTUAN QUIPPER SCHOOL," *JIPMat* 1, no. 2 (January 3, 2017), http://dx.doi.org/10.26877/jipmat.v1i2.1248.

[3] Muh Barid Nizarudin Wajdi, "Desain Teknologi Pembelajaran" (2017).

[4] Azhar Arsyad, "Media Pembelajaran" (2011).

According to Flemming [5] it is suggested that the media is often also referred to as mediator i.e. the cause or tool that intervenes in two parties and term media mediator denotes its function or role, i.e. regulating the effective relationship between the two main parties inthelearning process"

While Munadi argues that "the media is everything that can convey and channel messages from sources in a planned manner so as to create a conducive learning environment where the recipient can carry out the processof defense efficiently and effectively"[6].

Learning media can be interpreted as a component of learning resources that contain material learned by students. In summary, the learning media is a tool that serves to convey a message to learners

Learning Media Development

Learning media development is the process, way, action of developing existing learning media to be updated according to the needs and characteristics of students. With time and the development of increasingly modern times, the need for learning will also follow in accordance with the times. The needs of students for learning must also have adequate facilities, so that learning must be effective and also efficient. From the needs of students for effective and efficient learning in the teaching and learning process, making teachers must be careful in creating the learning activity process, so that the learning objectives are delivered optimally to students and also the learning goals will be achieved to the maximum. In order to create such learning, in learning activities should use learning media that are in accordance with the character of students and also the needs of learners so that learning can be delivered optimally to learners.

Development procedures are procedural steps that must be taken by the developer in order to get to the specified product. Based on the understanding of the media development above it can be concluded that a process of developing existing learning media is then redesigned to make the media more attractive and can meet the needs of students in conducting learning activities.

Various Media Expansion

1) Media audio
2) Interactive video
3) Presentation media
4) Media video

Quipper School application

[5] André Marchand, Thorsten Hennig-Thurau, and Jan Flemming, "Social Media Resources and Capabilities as Strategic Determinants of Social Media Performance," *International Journal of Research in Marketing* (2020).

[6] Lies Pebruanti and Sudji Munadi, "Peningkatan Motivasi Dan Hasil Belajar Pada Mata Pelajaran Pemograman Dasar Menggunakan Modul Di SMKN 2 Sumbawa," *Jurnal Pendidikan Vokasi* 5, no. 3 (2015): 365–376.

. Quipper School is a learning medium with the latest open source e-learning system, and launched in February 2014 Quipper School is a liaison between students and teachers in the division of subject assignments online and in accordance with subjects adapted from the curriculum applied in Indonesia[7].

Quipper School is an online method of assigning assignments to learners. The teacher creates a class complete with a class code, then the learner registers to enter the onlineclass, then the student works on the questions given by the teacher, anywhere as long as the area is connected to the internet. Quipper School is an application that contains various materials and subject matter provided by the government in all schools, the service is also free so that it will make it easier for teachers, especially in uploading materials, assignments, homework, problem training, monitoring student activities, or exams in the classroom with the specified time[8]. Quipper School can be accessed anywhere while connected to the internet or can also use a smartphone, blackberry,computer, laptop, or tablet[9].

Motorcycle Engine Maintenance

In the eyes of motorcycle engine maintenance training there are 10 (ten) KI and KD, namely:

Table list of KI and KD eye training motorcycle engine maintenance

BASIC COMPETENCIES	BASIC COMPETENCIES
3.1 Understand the working principle of the mechanism	4.1 Periodically laughing
3.2 Understand the working principle of theuming system	4.2 Periodically on the system
3.3 Understand the working principles of the cooling system	4.3 Periodically on the cooling system
3.4 Understand the working principles of the income and disposal system	4.4 Regularly on the income and disposal system

[7] Dwi Sulisworo, Eko Nur SULISTIYO, and Rifai Nur Akhsan, "The Motivation Impact of Open Educational Resources Utilization on Physics Learning Using Quipper School App," *Turkish Online Journal of Distance Education* 18, no. 4 (2017): 120–128.

[8] Rizki Rahmawati and Sri Sumaryati, "Keefektifan Penerapan E-Learning Quipper School Pada Pembelajaran Akuntansi Di SMA Negeri 2 Surakarta," *Tata Arta: Jurnal Pendidikan Akuntansi* 1, no. 1 (2015).

[9] Yani Supriani, "Menumbuhkan Kemandirian Belajar Matematika Siswa Berbantuan Quipper School," *JIPMat* 1, no. 2 (2016).

3.5 Understand the working principle of the carburetor gasoline fuel system	4.5 Regularly on the carburetor's gasoline fuel system
3.6 Understand the working principle of the injectionbensin system	4.6 Periodically on the injectionbensin system
3.7 Understand the working principle ofmanual transmission systems	4.7 Periodically on the transmission system
3.8 Understand the working principle of an automated transmission system	4.8 Periodically on automatic transmission system
3.9Set up the way the clutchmanual system is maintained	4.9 Periodic monitoring of the clutchmanual system
3.10 Apply automatic clutch system maintenance	4.10 Periodic maintenance of automatic clutch system

METHODS

. This research is carried out using research and development methods or Research and Development (R&D). Sugiyono (2013: 407) states that R&D is a research method used to produce a particular product, and tests the effectiveness of that product. In this study, the resulting product is a learning medium using the Quipper Scholl application on the eye of the maintenance of smk N 1 Kinali motorcycle engine

RESULTS AND DISCUSSION

The purpose of this research is to develop a learning media that focuses on learning media using the Quipper School application on the eyes of Motorcycle Machine Maintenance training taught to students of class XI SMKN 1 Kinali. Media development activities are carried out by 4D methods with stages, namely:

Definition Stage

The implementation of research begins with the stage of determination *(define)*aims to establish and define masalah and the obstacles encountered during learning activities. After analysis of the data will be obtained about the actual conditions that occur in the field and the solutions offered to solve the problem.

Planning Level

After going through the *define* stage, the results of the analysis are used for the *design*stage. At this *stage of design* is carried out the design of the modules developed. The purpose of this stage is to coveralearning medium based on *quipper school*applications.

Development Stage *(Develop)*

After the stage on the design has been completed, the next stage that will be done is the stage in developing. This stage aims to produce a valid, practical and effective learning medium using the *Quipper Schoolapplication.*

1) Validity of media experts

The results of the assessment of each aspect provided by the validator are then analyzed using aiken's V statistical formula. The results obtained are validation values summarized in the learning media section that can be assessed yang displayed in the table as follows.

Validation Htable on Learning Media Using *Quipper School* Application

No	Validator	Valuation	Category
1.	Validator 1	0,86	Valid
2.	Validator 2	0,90	Valid
Average		0,88	Valid

Source: Appendix 4.

From the Table that states the results of validation from media experts on learning media using the *Quipper School* Application developed has a valid category with an average value of 0.88.

2) Validation of material experts

The results of the study are seen from the results of each aspect that has been given by the validator and then analyzed using the formula Aiken's V. The result that has been obtained is the validation value on the design of the product that has been produced. The results of validation recapitulation are summarized from several aspects of the material in the learning media that have been assessed displayed in Table 4.2.

Table Here's The Material Validation Data on Learning Media using the *Quipper* app

No	Validator	Valuation	Category
1.	Validator 1	0,83	Valid
2.	Validator 2	0,89	Valid
Average		0,86	Valid

Source: Appendix 6.

From the results of Table 4.2 which states the results of validation from experts on learning media with the Quipper School application developed has a valid category with an average value of 0.86.

3) Practicality of Learning Media

a) Teacher response to the practicality of *quipper school* application learning media.

This developed learning media can provide practicality, ease in delivering learning. This practicality data is obtained from a questionnaire that has been filled by two samples of TEACHERS OF SMKN 1 Kinali with subjects of motorcycle engine maintenance training (attached to appendix 9). The results of the assessment on praktility are summarized in Tabel as follows.

Table result of questionnaire Teachers

No	Aspects	(%) Category	
1.	Facilities	90	Very Practical

2.	Time	95	Very Practical
3.	Use	90	Very Practical
Average Teacher Response		92	
Aspect Category		Very Practical	

Source: Appendix 9.

Based on the table taken with an average assessment of praktility as much as 92, it can be concluded that the learning media belongs to the "SP or Very Practical" group.

b) Student Response to the Practicality of *Quipper School* application learning media.

Practical media also requires input in the form of responses from students as many as 27 people SMKN 1 Kinali Data is obtained after the students use the media, the next stage students are asked to fill out the questionnaire given by theliti pene (attached to appendix 10). The results inthis appraiser are summarized in the Table.

Table Hasil Angket of the Response of The Learners

No	Aspects	(%) Category	
1.	Facilities	88,70	Very Practical
2.	Time	91,11	Very Practical
3.	Use	90,07	Very Practical
Average Student Response		89,96	
Aspect Category		Very Practical	

Source: Appendix 10.

The value obtained in accordance with the average ofpracticality is 89.96,it can be concluded that the media falls into the category of SP or Very Practical.

c) Effectiveness of Learning Media

Classically the completion can be seen from the percentage of the number of students who entered the completion after using the learning media. The foundation in determining the learning media is the results obtained from the presentation of the completion of classically the students greater or equal to as much as 85% then the media can be used effectively. If on the contrary, the percentage obtained is less than 85% then the media is not effective to use. The following are the results of the average grades of students in simulation subjects and digital communication presented in the Table.

Table result Completion of Students in Class XI

No.	KKM	Number of Learners	%
1.	< 75	2	7%
2.	≥ 75	25	93%
Sum		27	100

Source: Appendix 18.

From the results of the analysis shown in Table 4.5 states that the number of learners who entered the completion amounted to 25 students or equivalent to 93%. With this classical completion has been achieved, then the learning media can be used effectively when viewed throughclassical completion.

Test *Gain Score*

Student learning outcomes showed improved results after *pretesting* and *posttesting* by calculating the gain *score*. Learning media can be declared effective if the value of the gain *score* obtained ≥ 0.3 or the results are still minmal in the current category. The gain *score* is 0.46 which falls into the current category.

Gain Score RecapitulationTable

N	Minimum Value	Maximum Value	Gain Score
27	0.15	0.77	0.46
Category			Keep

Source: Appendix 18.

Based on classical completion reached 89% and *gain score* of 0.46 with medium category it can be concluded that the learning media using *quipper* application is declared effective. For more details, the reader tis displayed in the 18th appendix.

d) Alignment Stage

In this stage, the learning media developed is ready for consumption by teachers and students in learning motorcycle engine maintenance training lessons and can be widely distributed.

CONCLUSION

Based on the results of research on the development of learning media that have been done, the following conclusions were obtained:

This development research resulted in learning media using *Quipper School* motorcycle engine maintenance training subjects that suit the needs of learners. Learning media using *Quipper School* applications are presented with a material format according to the competencies that must be achieved by students. Learning media use *Quipper School*which helps learners in receiving classroom learning inaccordance with existing learning times. Learning media using*Quipper School* that can be used by learners anytime and anywhere when learners want to repeat the lesson (learn independently).

Validation tests, practicality and effectiveness of learning media using the Quipper School application as a learning support tool, state that learning media is valid, practical and effective. Where the average value of all media expert validators with a value of 0.88 is included in the category of valid products and the average value of all material expert validators with a value of 0.86 is included in the valid category. Furthermore, in the practical aspect of learning media using the Quipper School application obtained a percentage of assessments by teachers with an average of 92 while the average assessment by students was 89.96 so that the learning media tool using the Quipper School application was declared to have met the practical aspects of an educational product. And the application of *Quipper School* applicationlearning media through the stages of effectiveness test through student learning outcome tests in the form of *pretest* and *posttest*. The results of the effectiveness test stated that the Quipper School application learning medium is in the effective category.

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