

The Effectiveness of the Integrated Islamic LKPD Bangun Flat Based on the *Linktree Digital Platform* to Facilitate Religious Literacy of Mts Students

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Abstract: This research aims to determine the level of effectiveness of the Student Worksheet (LKPD) based on the Linktree digital platform on the subject of flat figures and to find out whether the LKPD can facilitate the religious literacy of MTs students. This research is development research (*Research and Development*) by adopting the 4D procedure with the stages of *Define, Design, Development, and Dissemination*. At the development stage, a process of validity testing and practicality testing is carried out. The trial was carried out in class VIII Girls at MTs Sabilurrosyad Malang using a research trial using a research instrument on the effectiveness of using LKPD sheets. The results of the development research show that the Islamic Integrated Bangun Datar LKPD based on the Linktree digital platform is included in the very valid category as seen from the results of the validity test: (1) From the validation results, media experts obtained an average score of 96.61 with very valid criteria; (2) Validation by material experts received an average score of 97.34 with very valid criteria; (3) Validation by integration experts obtained an average score of 96.87 with very valid criteria. In the development process, an analysis of the religious literacy of MTs students was also carried out. This analysis was carried out using a religious literacy questionnaire. The results of the questionnaire test showed results with a score of 78.81 so that the LKPD can facilitate students' religious literacy.

Keywords: Effectiveness, Development Research, Linktree Digital Platform, Islamic Integrated Student Worksheet (LKPD), Religious Literacy.

Abbreviations: LKPD (Students Worksheet), MTs (Madrasah Tsanawiyah)

Introduction

Religious literacy requires individuals to develop the ability to analyze (religious) information appropriately to solve problems and find common ground with social, political and cultural life from various points of view (Nur Pratiwi, 2019). Thus, religious literacy is very necessary for students to be able to survive amidst the onslaught of information technology through the activity of reading and analyzing learning resources related to Islam (morals, morals), in the form of text, oral, digital and visual (DMoore, 2015). Literacy religion Islam is activity read, write and all effort For obtain

knowledge about study religion Islam And media print, visual, digital And audio. According to Prothero Which quoted Habibah explain that education religion is ability understanding Which used in life daily based on tradition religious, which covers symbol, saying, character, teachings, practice and story (Habibah, 2019). Education religion must covers No only mastery knowledge And information base, but Also How use knowledge base This For get understanding And interpret life You.

One of the mathematics materials that can cover Islamic values in several ways is geometry.

Geometry is a branch of mathematics that teaches understanding the relationships between geometric elements (Muslimin and Sunardi, 2021). Based on findings in the field, namely at the even semester

SMP/MTs Class VIII level, there are mathematics lessons on flat-sided building materials and textbooks or textbook guides provided by the school, the material is presented only in two-dimensional form. This results in less capable students imagining concepts, facts, principles and procedures for the material (Syahbana, 2013). Because the object of mathematical study is abstract (Sumardiyono, 2004). Students have a tendency to like concrete things rather than abstract things in learning mathematics (Daryanto, 2016). Of course this is based on the Cognitive Psychology Theory, Jean Piaget, which states that students aged 12-14 years are at the concrete operational stage. Thus, there needs to be teacher creativity in developing students' learning experiences, including the use of appropriate learning media (Nurrita, 2018). This is in accordance with previous findings that learning media are important (Buchory, et al., 2017; Derlina & Afriyanti, 2016).

Environment Study Which fulfil need education century 21 nature digital that is through platforms digital. Platforms digital is program Which support And support process Study teach in century 21, with help Which achieved level success Study (Assidqi And Sumarni, 2020). Wrong One platforms digital Which can developed For learning mathematics is linktree. Linkree is resources Which containing tools form screen simple for access a number of menu (Amaliah et al., 2021; Nurafni & Ninawati, 2021). Excess from application Linktree is very easy used. Use media Linktree makes it easier use material or videos Where just so it makes it easier learning for student. Media linktree can used for learning (Amaliah et al., 2021; Nurafni & Ninawati, 2021). Tree link consists from a number of link Which combined become One link, Which Then can separated For send information (Raisha, 2021). Linktree provide various information start from address e-mail, link Google Drives, videos YouTube, And link site web (Raisha, 2021). Links

Which there is on linktree can made material learning for student. Based on a number of study previously, Manurung (2020) develop material teach communication And technology information use material link to statistics For increase results Study student class X. Nuzirwan & Salayan (2021) develop material teach Linktree use material arithmetic social, good practice. For made learning mathematics in period pandemic Covid-19. Product Which will developed own superiority form a number of menu Which can help student in platforms digital, among them is menu GeoGebra. with videos tutorials.

Based on the results of the pre-survey at MTs Sabilurrosyad Malang, information was obtained that learning had been carried out using technology, but was still limited, needed adjustments and was complicated. Because teachers are not ready or have mastered technology and students are not yet accustomed to using technology in their learning. Students are only able to use technology for personal things such as social media, *games*, or other activities that have nothing to do with classroom learning. This is certainly very unfortunate considering the use of digital media when teaching mathematics in class in order to increase efficiency in the hope of improving learning outcomes (Anggraeni, Fauziah, & Fahyuni, 2019; Hasanah, et al., 2021).

Research Methods

Research and Development (R&D) research. This development research procedure was adapted from a development procedure using the 4-D Model which contains 4 stages, namely *define, design, develop, disseminate* (Thiagarajan in Lestari, 2018). At the define stage, the initial problem in the field is understood which is the basis for conducting research as a solution to a problem. Then analyze the characteristics of the students, determine the KD and details of the learning material, arrange the tasks carried out by the students, and describe the learning objectives.

At the *design* (planning) stage, the test to be used is designed, the media used is selected, the media development format is determined, and an initial

design of learning media is created which is adapted from the results of the *define stage*. At the *develop stage*, an expert assessment is carried out with validation by the validator and product revisions according to the validator's suggestions. The development subjects are validators or experts, namely 2 mathematics education lecturers. Subject development was carried out on 20 grade 8 students at MTs Sabilurrosyad Malang. At the disseminate stage, the research results are published through appropriate journal publication media.

The data collection technique is in the form of a questionnaire or often called a questionnaire. A questionnaire is a technique for collecting data by asking several questions to sources or respondents (Herlina, 2019). The questionnaire in this research is a validation sheet assessed by experts in the field of mathematics and a student response questionnaire. There are 2 types of validation, namely, media expert validation and material expert validation. After the validation process is carried out, a trial process is carried out and digital literacy questionnaires are given to students.

Then the data analysis process is carried out from the validator on mathematics learning media. The results of the validation study are used to improve mathematics learning media. The data analysis technique in this research is quantitative data analysis. This is done by calculating the average score for each component using the formula B. Subali (2011) which explains that to determine the percentage of validity level of effectiveness, the quantitative data in the form of the Likert scale above is analyzed using the following formula (B. Subali, 2011):

$$P = \frac{\sum x}{\sum xi} \times 100\%$$

Information:

P : the percentage sought

$\sum xi$: total score of validator answers (real value)

$\sum x$: the total maximum score in the entire instrument (expected value)

100% : constant number

The validation process is carried out by providing a validity questionnaire to measure the validity of the media being developed. Apart from

the validity value on the questionnaire, a comment column from the validator is also provided. Where these comments are also used as a reference for the product revision process. Apart from that, a trial process was carried out by measuring learning outcomes before and after treatment was given. Questions and questionnaires were also given to students. The questionnaire given to students is used to find out the responses from students after the learning process has been carried out using the learning media that has been developed. Giving questions is used to determine student learning outcomes before and after being given treatment.

Results and Discussion

The development of the *Linktree* digital platform with the help of *wordwall* in integrative mathematics learning on plane material refers to the meaning of integration according to Abdussakir (2017) who explains the meaning of integration into several parts. One of them is *Mathematics to Explain the Al-Qur'an*, this model, mathematics is used to explain the Al-Qur'an (Abdussakir & Rosimanidar, 2017). The Koran is the main source of Islamic law which is then clarified by hadith, ijma, and also qiyas in life. So integration in this research refers to the Islamic values that exist in life. The development of integrative learning media was carried out with the aim of finding out whether integrative media could facilitate students' religious literacy.

The initial stage of this research is definition. At this stage it was found that teachers were more likely to use conventional learning, namely using the lecture method and being teacher-centred. The teaching materials used still use printed books provided by the school. Adequate facilities are not utilized by teachers. This causes students to become less active in learning activities and are not used to expressing their opinions. Apart from that, a KD analysis process was carried out on the geometric material to adapt it to the media being developed.

The second stage is the design stage for developing the *Linktree digital platform* with the help of *wordwall* for Al-Qur'an/Hadith-based

mathematics learning. The preparation of the digital platform is structured using cube and block building materials based on the Koran/Hadith to facilitate students' religious literacy. The material in its initial form was compiled in *Microsoft Word format* and then compiled in Canva format before being combined into the *Linktree digital platform*. The following is a display of the media being developed:



The third stage is *develop* or development. After the media is arranged in the form of the *Linktree digital platform*. Next, a validation process is carried out to determine the level of validity of the media being developed. Validation carried out includes validation of media experts, material experts, integration experts. Digital platforms are assessed by expert validators including validation of material, media and integration on digital platforms. The results of media expert validation can be seen in table 1 below:

Table 1. Media Validity.

Aspect	Average Percentage of Third Media				Total Average
	1	2	3	4	
Packaging	91.66	91.66	100	100	95.83
Text element	100	100	95.83	100	98.96
Graphic or visual elements	100	97.22	100	94.44	97.91
Completeness of learning media	95.83	91.66	95.83	91.66	93.74
Average media validation					96.61
Validation criteria					Very Valid

Based on Table 1, it can be seen that the validity value obtained is 96.61 with the criteria "very valid". From the validation process, the lowest score was found in the aspect of completeness of learning media. This lack of completeness lies in the 4 parts of the *Linktree digital platform*. In learning activities 1 and 2 there are deficiencies in the sequence of learning steps. In the integration menu there is a

lack of solutions in the practice questions, and in the questions section. After testing in class based on teacher and student comments, this geometry material only provides a few examples of the images provided. However, the average media validation is 96.61 and is still within the very valid validation criteria. Next is the validation of the material shown in Table 2.

Table 2. Validity of Material.

Aspect	Average Percentage of Third Media				Total Average
	1	2	3	4	
Eligibility of content	97.22	100	100	97.22	98.61
Feasibility of presentation	92.85	100	94.04	97.61	96.12
Language eligibility	91.66	100	100	97.61	97.31
Average media validation					97.34
Validation criteria					Very Valid

Based on table 2, it can be seen that the validity value obtained is 97.34 with the criteria "Very Valid". From the validation process, the lowest value was found in the presentation feasibility aspect. Based on the validator's comments, it shows that the lack of presentation, especially in the content and practice questions which are arranged in *wordwall form*, the lack of picture illustrations is one of the shortcomings in the presentation of the material. Images that are too small on the wardwall are one of the highlights of the validator. After testing in class, students also commented that there was too much writing without balance with pictures for illustration, which was one of the things that could cause boredom. The content and language in the media were appropriate for junior high students, but the presentation still needed improvement regarding the delivery of integrated, more varied material. The results of integration validation by integration experts are shown in Table 3

Table 3. Valdas integration expert.

Aspect	Average Percentage of Third Media				Total Average
	1	2	3	4	
Suitability of Integration with Material	95.22	100	100	97.22	98.11
Feasibility of presentation	94	100	94.04	93.1	95.29
Language eligibility	92.6	98.7	100	97.61	97.22
Average media validation					96.87
Validation criteria					Very Valid

Based on integration validation, an average of 96.87 was obtained with very valid validation criteria. Teachers are interested in using the integration of al-Qur.an/hadith as a delivery of

geometry material, especially in plane material. From this integration, students also realize that there is a connection between the content of the Koran/Hadith and the mathematics material being studied. After the validation process is carried out, the next process is revision of the product being developed.

This is in line with the opinion of Maulidani (2023) in his research explaining that integrative learning media is valid and practical to be given to students. Apart from this, integrative learning media can facilitate students' mathematical literacy (Maulidani et al., 2023). This is also reinforced by the opinion of Ulva Dwi Valencia (2019) who explained in her research that the LKPD developed was very effective with an average score of 4.45 as seen from the results of student activities, student responses and student learning outcomes. In the development research carried out by the author, there was also an increase in student learning outcomes. There are several differences, namely in the media developed where researchers use Linktree-based and Islamic- integrated LKPD which are used as learning media to improve student learning outcomes. After that, the results of the validity of the comments listed are used as a basis for revising the product being developed to make it more perfect.

The parts of the digital platform before and after revision are presented in Figures 1 to Figure 5. The validator provided suggestions to clarify the image captions in the material. So readers will understand what images are displayed. The first revision is from the material expert. The validator provides suggestions to clarify the image captions in the material. So readers will understand what images are displayed.



Figure 1. Before revision.



Figure 2. After revision.

Apart from that, the validator also provides suggestions for providing the background design for each page on the digital platform. So researchers provide more attractive colors on digital platforms.



Figure 3. Before revision.



Figure 4. After revision.

The validator also suggested that the cover be made more attractive by including a picture of the Kaaba related to the integration of the Koran and Hadith.

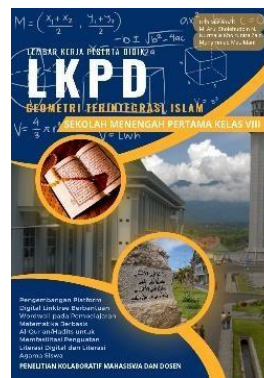


Figure 4. Before revision.

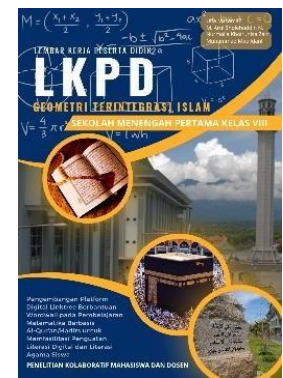


Figure 5. After revision.

After the revision process is carried out, the next stage is the trial stage. At the trial stage, small group tests and large group tests (*field tests*) were carried out. In the small group test, the digital platform was tested on 6 people with heterogeneous abilities, the results of which are shown in Table 4.

Table 4. Practical results from the small group test

Aspect	Average Percentage of Third Media				Total Average
	1	2	3	4	
Appearance	88.33	94.79	92.70	94.79	92.65
Clarity	89.16	90.27	94.04	88.33	90.45
Implementation	90.27	88.88	88.88	94.79	90.70
Average Practicality					91.27
Practicality Criteria					Very Practical

Based on table 4, it can be seen that the practicality value of *the small group test* received an average value of 91.27 with the criteria "very practical". At this stage there is adjustment of the assessment results in the aspect of clarity. This adjustment is found in the size of the text in the application presentation. This adjustment is for readability on smartphones to access the provided *Linktree media*. Next, *the field test stage is carried out*. The results of the student response questionnaire at this stage can be presented in table 5.

Table 5. Practical results from *the field test*.

Aspect	Average Percentage of Third Media				Total Average
	1	2	3	4	
Appearance	88.33	94.79	87.08	94.79	91.24
Clarity	82.33	90.27	94.04	88.33	88.74
Implementation	90.27	88.88	85	81.66	86.45
Average Practicality					88.81
Practicality Criteria					Practical

The *field test* was given to 20 VIII students. Based on table 4, it was found that the average practitioner test score was 88.81 with the "practical" criterion. Apart from that, during the trial process a questionnaire was given to students' responses to the integrated material. From the student response questionnaire the average score was 78.81. So, based on the expert validation description, small group test, and field test it can be stated that LKPD Bangun Datar Integrated Islam Based on the *Linktree Digital Platform* to facilitate the religious literacy of MTS students can facilitate the religious literacy of students. Because the media developed is valid and practical, it can be stated that the media developed is effective for giving to students. This is in line with the opinion of Muhammad Maulidani (2023) where the results of his research explain that Islamic integrated UKBM is valid to be given to students (Maulidani et al., 2023). From the results of *the small group test* and *field test*, there was an improvement in the learning process provided. With media that is integrated with Islamic values, this becomes a facility for students' religious literacy.

Media that is valid and practical is then continued to the dissemination stage which includes final packaging. In the final packaging, the Linkree digital platform is packaged in the form of a link. At the diffusion stage, the research results

are presented at a results seminar and the research results are published in a national journal.

Conclusion

From the results of development research carried out, the media that was developed obtained a validity value from media experts of 96.61, from material experts of 97.34 and integration experts of 96.87 with very valid criteria. From the results of *the small group practicality test*, an average score of 91.27 was obtained which was given to 6 students with very practical criteria. Then, from the results of the field test given to 20 students, they got an average score of 88.81 using practical criteria. The existence of materials and practice questions that are integrated with the developed media can facilitate students' religious literacy. Because the media developed is valid and practical, the Islamic Integrated Flat Building LKPD Based on the *Linktree Digital Platform* is effective to provide in the learning process.

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