

Learning Media Using Qr Code-Based Professional Pdf Flips as an Effort to Improve Students' Concept Understanding in PAI Lessons

Suci Prihatiningtyas^{1*}, Filla Hidayatul Mar'ah², Dian Kusuma Wardani³, Asiyah Lu'lu'ul Husna⁴

^{1,4} Physics Education, Universitas KH. A. Wahab Hasbullah

^{2,3} Islamic Education, Universitas KH. A. Wahab Hasbullah

*Email: suciningtyas@unwaha.ac.id

ABSTRACT

The learning process that is expected in the digital era is the existence of learning interactions that take place in an interesting, up-to-date, efficient, practical and not boring manner. The purpose of this study was to determine the influence and increase in students' understanding of concepts through the implementation of E-Module learning media with QR Code-based Flip PDF Professional in PAI lessons at SMAN Plandaan Jombang. This study used the One Group Pretest-Posttest Design. The population in this study were students of class XI IPS SMAN Plandaan Jombang. The sample in this study was taken from class XI IPS 3 at SMAN Plandaan Jombang. The data collection technique in this study was by giving pre-test and post-test. The research instrument was a multiple choice test with 30 items and 5 description questions. Data analysis was performed using the prerequisite test and the N-gain test. Based on the results of the study, it was shown that the average N-Gain value in this study was 0.51 in the moderate category. The conclusions in this study indicate that the application of E-Module learning media with Flip PDF Professional can improve students' understanding of the concepts of class XI IPS 3 at SMAN Plandaan Jombang.

Keywords: E-Module, Flip PDF Professional, Qr Code, Understanding Student Concepts.

INTRODUCTION

The development of progress in the realm of life in an all-digital direction occurs in the digital era. This happens in all fields, including education. Integration of information and communication technology into all subjects expected by education in the digital era. The competencies needed by students in today's digital era are 1) Critical thinking and problem solving skills; 2) Communication and collaborative skills (communication and collaborative skills); 3) Creative and innovative thinking skills (creativity and innovative skills); 4) Information and communication technology literacy (information and communication technology literacy); 5) Contextual learning skills; 6) Information and media literacy (Sukmawati & Jamaluddin, 2020). Therefore educators must be able to design learning that includes these competencies. So that students are able to compete and even create jobs based on Industry 4.0.

The learning process expected in the digital era is learning interactions that take place in an interesting, up-to-date, efficient, practical and not boring way. So that students become more interesting, understand, and active in discovering and searching for the concepts they will learn on their own (Agustini, 2021). The learning process includes five learning components, namely educators, teaching materials, learning media, students and learning objectives (Daryanto, 2013). Determining the right method and using practical media in the teaching and learning process can create an effective and enjoyable learning atmosphere, and can make it easier for students to receive and process the information they receive (Prihatiningtyas et al, 2021). The use of instructional media is very important in the learning process, supported by the opinion of Yulisa et al (2020) that learning Physics is more interesting and requires better and more interesting learning media. This is expected to make students more interested in the material presented by educators (Meishanti & Maknun, 2022). The use of learning media will help translate abstract concepts in teaching materials. The information contained in teaching materials will be easily accepted by students (Agustina et al., 2022).

However, the facts on the ground show that the learning carried out at SMAN Plandaan Jombang is still far from ideal conditions. Based on the results of the observations that the researchers made, when the PAI learning process in class XI IPS took place, among others: 1) Direct learning methods tended to

be unidirectional. Educators give lessons and students only receive them. 2) Students tend to be passive because they only listen, memorize, and facial expressions are confused due to their low ability to understand the concept of PAI material. Understanding of concepts related to knowledge (cognitive) namely remembering, understanding, and applying is still low, 3) Only some students are enthusiastic (the appearance of feedback) and most students are passive in following the lessons (no feedback), 4) The test scores for class XI IPS 3 students were below the KKM (Minimum Completeness Criteria), which was 75. Of the 30 students who achieved the KKM, only 12 students achieved the KKM, while 18 did not reach the KKM. This is because the ability to analyze and solve questions is still low, 5) PAI learning is generally implemented using only simple media, for example using textbooks owned by students. In addition, educators only use conventional teaching aids, there are already using technology-based learning media such as laptops and smartphones, but they are still not used optimally. As a result, students become less interested and less active in participating in PAI learning. In addition, it can cause students to lack mastery of reading the correct verses of the Qur'an in accordance with the makhoriijul letters.

With the development of science and technology, educators are expected to be able to overcome the above problems. One of them is by applying the E-Module learning media assisted by Flip PDF Professional. E-module is a form of presenting independent learning materials that are arranged systematically into certain learning units, which are presented in an electronic format, where each learning activity in them is connected by a link as navigation which makes students more interactive by being equipped with presentations, tutorial videos, animations and audio to enrich the learning experience (Maulida & Nasrah, 2022).

The use of links will be more practical if packaged in the form of a QR Code. QR Code is a two-dimensional image that represents data, especially data in the form of text (Mustakim et al, 2013). Using the QR Code can make learning media practical, and easy to access, because a lot of data was stored in the form of a code that is simple and can be read quickly (Setiadi & Rosmawarni, 2020). QR Code has good potential to be integrated into the curriculum (Sharma, 2013). Making a QR Code is very easy, by changing documents or other files using software that is available free of charge on the internet (Wayase, 2015). One of them is through the site www.qr-code-generator.com. It is hoped that the use of the QR Code in learning will increase student learning motivation, involve more students, the QR Code will encourage changes related to the teaching and learning experience to become an interactive and fun learning place (Agustini, 2020). Based on these conditions, the researcher sees the need for efforts to implement E-Module learning media with QR Code-based Flip PDF Professional as an effort to understand students' concepts in PAI lessons at SMAN Plandaan Jombang.

METHOD

This study used the One Group Pretest-Posttest Design. One Group Pre test-Post test Design is an experimental design that uses only one group of subjects (single case) and takes measurements before being given treatment (pre test) and after being given treatment (post test). And the difference between the two measurement results, namely the pre test and post test, is considered a treatment effect. This research took place at the Plandaan Jombang State Senior High School which is located in Plandaan Jombang. The population in this study were all students of class XI Social Sciences in the even semester of SMA Negeri Plandaan Jombang in the 2021/2022 academic year. The sample used in this study was 30 students in class XI IPS 3 at SMA Negeri Plandaan Jombang. In this study, the data collection technique used was a concept understanding test. The tests used in this study are multiple choice tests and descriptions. The test is given in two stages, namely the pre-test and post-test stages.

Data analysis techniques in this study used descriptive statistical analysis techniques. Descriptive statistical analysis techniques are used to provide an overview of the characteristics of the achievement of student learning outcomes. Data on student learning outcomes is calculated by comparing the total score obtained by students with the maximum total score then multiplied by 100%. Following are the categories of student success rates according to Riduwan (2015).

Table 1 Category Level of Success of Students

Level of Success (%)	Category
81-100	Very High
66-80	Good
56-65	Moderate
0-55	Low

While the increase in students' understanding of concepts was analyzed using the results of the pre test and post test, using the normality test (N-Gain) with the formula (Meltzer, 2002 in Prihatiningtyas, 2020) :

$$\langle g \rangle = \frac{\langle S_{post} \rangle - \langle S_{pre} \rangle}{100\% - \langle S_{pre} \rangle}$$

N-Gain criteria (increasing students' understanding of concepts), can be seen in Table 2 below.

Table 2 Categorization of Gain

Value Interval Gain Value (N-Gain)	Category
N-Gain $\geq 0,7$	High
$0,3 \leq$ N-Gain $< 0,7$	Moderate
N-Gain $< 0,3$	Low

RESULT AND DISCUSSION

Result

This research was conducted at SMAN Plandaan Jombang. The subjects of this study were students of SMAN Plandaan Jombang, namely class XI IPS 3 for the 2022/2023 academic year. Details of the number of students in class XI IPS 3 totaling 30 students. The subject matter taught in this study is material on the principles and practices of Islamic economics. The research design used was a re-treatment design (one group pre test and post test design). One group pre test and post test design, is an experimental design that uses only one group of subjects (single case) and takes measurements before being given treatment (pre test) and after being given treatment (post test). This research was conducted to determine the ability of students' understanding of concepts. As for the flow of treatment to determine understanding of the concept, namely after being given E-Module learning media with QR Code-based Flip PDF Professional on the principles and practices of Islamic economics, the class is given multiple choice tests and descriptions.

The data collected in this study are pre-test and post-test scores relating to the test of students' conceptual understanding of the material after learning media is applied with Flip PDF Professional based on QR Code on the material principles and practices of Islamic economics. The test was conducted to determine the extent to which students can achieve learning objectives and know the understanding of students related to the knowledge/concepts they have mastered. Concept understanding test for the pre test questions in the form of 25 multiple choice questions and 5 description questions, while for the post test namely 30 multiple choice questions and 5 essay questions with cognitive domains C1, C2, C3, and C4. In this study, the test was carried out twice, namely the initial test (pre test) and the final test (post test). Table 4.1 describes the results of the pre-test and final test (post test), while in summary the results of the concept understanding test can be seen in Table 3.

Table 3 Pre-test, post-test, and N-Gain values

No.	Initial Name	Pretest	Posttest	N-Gain	Category
1	ARA	62	71	0.24	Low
2	AYP	71	77	0.21	Low
3	AA	49	73	0.47	Moderate
4	DDP	34	73	0.59	Moderate
5	DEA	47	75	0.53	Moderate
6	DB	42	66	0.41	Moderate
7	FMS	60	73	0.33	Moderate
8	GPA	70	81	0.37	Moderate
9	HT	28	53	0.35	Moderate
10	HMW	60	68	0.20	Low
11	IDC	34	65	0.47	Moderate
12	IS	37	77	0.63	Moderate
13	KYP	45	75	0.55	Moderate
14	LE	60	75	0.38	Moderate

No.	Initial Name	Pretest	Posttest	N-Gain	Category
15	MAS	43	79	0.63	Moderate
16	AP	43	81	0.67	Moderate
17	RW	52	74	0.46	Moderate
18	R	48	77	0.56	Moderate
19	RSF	60	75	0.38	Moderate
20	SM	18	73	0.67	Moderate
21	SA	35	47	0.18	Low
22	TDJ	45	77	0.58	Moderate
23	YU	44	86	0.75	Tall
24	YP	55	84	0.64	Moderate
25	YAS	59	76	0.41	Moderate
26	YDA	62	73	0.29	Low
27	ITM	47	86	0.74	Tall
28	L	22	82	0.77	Tall
29	DCZ	64	90	0.72	Tall
30	IFC	55	89	0.76	Tall
	Average value of	48.30			
	Posttest average value of	76.07			
	The average value of N-Gain is	0.51			

Discussion

Based on Table 3 it has been shown the results of the tests carried out by students, namely the results of the pre test and post test. From the results of the pre-test, it can be seen that only a few students have mastered PAI material as indicated by the test scores that are above the KKM, namely 75. The following is Table 4.5 which shows how many students have understood the concept before using the E-Module with QR Code-based Flip PDF Professional on Islamic economic practice material. The results of the pretest value classification can be seen in Table 4.

Table 4 Pretest Value Classification Results

No.	Value	Frequency	Category
1.	90 – 100	0	Very good
2.	75 – 89	0	Good
3.	60 – 74	10	Poor
4.	45 – 59	10	Very poor
5.	0 - 44	10	Very poor

Based on Table 4 it can be seen that students who have understood the material in very good and good categories are 0 students. While students who still do not understand the material as many as 10 students. And students who have not completed and fall into the category of very less and very less as many as 20 people. Based on the results of this pretest, the researcher wants an increase in students' conceptual understanding, one of which is by applying E-Module learning media with QR Code-based Flip PDF Professional on the principles and practices of Islamic economics in learning. After learning using the E-Module learning media with QR Code-based Flip PDF Professional on Islamic economic practice material, the results are obtained as written in Table 3. The following is Table 5 which shows how many students understand the concept after using E-Module with Flip PDF Professional based on QR Code on the principles and practices of Islamic economics. The results of the post test value classification can be seen in Table 5.

Table 5 Post test value classification results

No.	Value	Frequency	Category
1.	90 – 100	1	Very good
2.	75 – 89	17	Good
3.	60 – 74	10	Poor

No.	Value	Frequency	Category
4.	45 – 59	2	Very poor
5.	0 - 44	0	Very poor

Based on Table 5, it can be seen that there are 18 students who have understood the material in very good and good categories. While students who still do not understand the material as many as 10 students. And students who have not completed and fall into the category of very less and very less as many as 2 participants in this study, the researcher has limited the problem that students are said to understand the concept if the value of students after using learning media E-Module based on QR Code on the principle material and the practice of Islamic economics (post test) is higher than the pre test and is above the KKM which is 75, so based on Table 5 it has been shown that students have understood the concept, this is evidenced by the number of students who get grades in very good and good categories. This shows that the E-Module learning media with QR Code-based Flip PDF Professional on the principles and practices of Islamic economics can be used to improve students' understanding of concepts.

Based on Table 3, the average N-Gain value is 0.51, which is included in the medium category. The N-Gain value shows that the understanding of the concept of PAI in Plandaan State Senior High School has increased quite significantly. The N-Gain value itself is obtained from the analysis of the results of the pre test and post test. In summary, the results of the concept understanding test can also be seen in Figure 1 below.

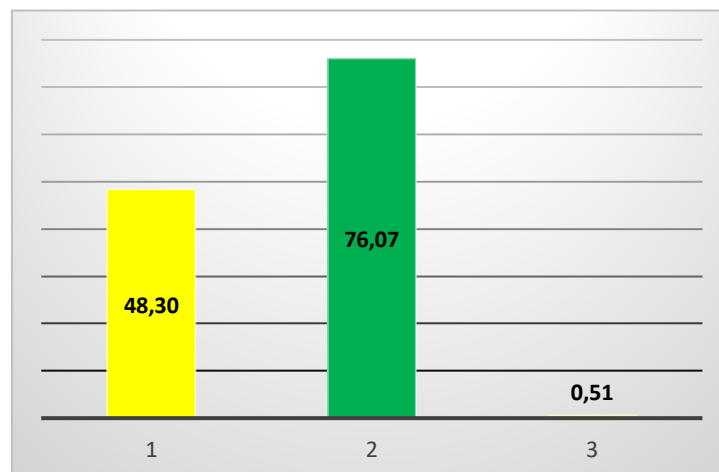


Figure 1. Graph of students' concept understanding test results

Based on Figure 1, the analysis of the results of the pre-test and post-test of understanding the concept of PAI at SMA Negeri Plandaan shows that there is a significant increase. Based on Figure 4.1 it can be seen that the pre-test results of students have an average value of 48.30. This is because students cannot understand concepts that have not been studied, they do not understand how to answer questions. However, after learning was carried out using the QR Code-based E-Module learning media on Islamic economic principles and practices, it was found that the results of the post-test for all students had an average score of 76.07. Based on these results it can be seen that the ability of students after carrying out learning using E-Module learning media with QR Code-based Flip PDF Professional on the principles and practices of Islamic economics shows positive results. learning media E-Module is a medium that can be used whenever and wherever you are, because E-Modules with QR Code-based Flip PDF Professional are different from printed books. So that it can increase students' learning motivation in which not only explanatory text but accompanied by learning videos.

Based on the results of the pre-test and post-test that have been obtained, then to find out the increase in students' understanding of concepts, a normality test (N-Gain) is carried out. The average N-Gain value in this study is 0.51 in the moderate category. There is an increase in students' understanding of concepts because students can adapt to the use of E-Module learning media with QR Code-based Flip PDF Professional on Islamic economic principles and practices in learning activities.

Determining the right method and practical use of media in the teaching and learning process can create an effective and fun learning atmosphere, and can make it easier for students to receive and process

the information they receive. Based on the description above, it can be said that the use of E-Module learning media with QR Code-based Flip PDF Professional on the principles and practices of Islamic economics as a supporting medium in learning can improve students' understanding of concepts.

CONCLUSION

It can be concluded that before and after the application of learning media using the E-Module with Flip PDF Professional there was an increase in students' understanding of concepts, namely 0.51 in the moderate category. There is an increase in students' understanding of concepts because students can adapt to the use of E-Module learning media with QR Code-based Flip PDF Professional on Islamic economic principles and practices in learning activities.

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