

# THE EFFECT OF USING ANDROID-BASED LEARNING MEDIA ON STUDENT INTEREST AND LEARNING OUTCOMES IN LESSONS ISLAMIC EDUCATION

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**Abstract:** This study aims to determine the interest in learning, and student learning outcomes before and after the treatment is given learning media based on android applications on fardhu kifayah material, in terms of increasing student interest and learning outcomes. This research was conducted at SMK Negeri 7 Bandar Lampung by dividing into two groups, namely the experimental class and the control class. The experimental research design was carried out by collecting interest in learning questionnaire data and learning achievement tests. The collected description data will be processed using SPSS 23. The results showed that the experimental and control class students' learning interest after treatment was 87.91%. The results of the t-count calculation of 6.416 are greater than the t-table of 1.668. The experimental learning outcomes obtained an average of 79.15, while the control class was 63.27. Increased learning outcomes indicate this from before treatment (52.30 to 79.15). There is a significant difference between the control, and experimental classes, the t-count of 5.321 is greater than the t-table of 1.668. Thus the hypothesis that there is a significant influence of the media on learning interest and student learning outcomes in the use of android-based applications for fardhu kifayah is acceptable.

**Keywords:** Learning Media, Android, Learning Interest, Learning Outcomes

**Abstract:** Penelitian ini bertujuan untuk mengetahui minat belajar dan hasil belajar siswa sebelum dan setelah perlakuan diberikan media pembelajaran berbasis aplikasi android pada materi fardhu kifayah, dalam hal peningkatan minat dan hasil belajar siswa. Penelitian ini dilaksanakan SMK Negeri 7 Bandar Lampung dengan pembagian dua kelompok yakni kelas eksperimen dan kelas kontrol. Desain penelitian eksperimen dilakukan dengan mengumpulkan data angket minat belajar dan tes hasil belajar. Data deskripsi yang terkumpul akan diolah menggunakan bantuan SPSS 23. Hasil penelitian menunjukkan bahwa minat belajar siswa kelas eksperimen dan kelas kontrol setelah diberi perlakuan sebesar 87,91%. Hasil perhitungan t-hitung sebesar 6,416 lebih besar dari t-tabel sebesar 1,668. Hasil belajar kelas eksperimen memperoleh nilai rata-rata 79.15 sedangkan kelas kontrol 63.27. Hal ini ditunjukkan dengan meningkatnya hasil belajar dari sebelum perlakuan (52.30 menjadi 79,15) dan adanya perbedaan yang signifikan antara kelas kontrol dengan kelas eksperimen yaitu thitung sebesar 5,321 lebih besar dari ttabel sebesar 1,668. Dengan demikian hipotesis terdapat pengaruh yang signifikan dari media terhadap minat belajar dan hasil belajar siswa pada penggunaan aplikasi berbasis android fardhu kifayah dapat diterima.

**Kata Kunci:** Media Pembelajaran, Android, Minat Belajar, Hasil Belajar

## INTRODUCTION

Students are individuals who need guidance and who can develop and interact and socialize with the environment around them, where the school is an institution for developing all its potential, both in the use of learning media in modern times like this. In this regard, learning is an activity that involves students and educators, and their environment to acquire knowledge, skills, and positive values by utilizing various media and learning resources to achieve an expected goal. According to Muhaimin, learning is an effort to teach students to learn, where learning activities involve learning something effectively and efficiently (Sibilana, 2016).

In teaching and learning, the teacher, as a source, pours messages into certain symbols, and students, as message recipients, interpret these symbols so that they are understood as messages. So that the message conveyed by the source or message can also reach the recipient. Then it takes a container called the media. This medium is called a channel (*channel*), which is usually in the communication process; even though the message or information has been given by the source and addressed to the recipient through the media, but there is no feedback, the communication process is not perfect. (Zazin & Zaim, 2020).

In this regard, Hamalik argued that using teaching media in the teaching and learning process generates new progress and interests, generates motivation and

stimulates learning activities, and even psychologically influences students. Learning media are various components in the student environment that enable students to learn even though they are channeling messages. They can stimulate thoughts and stimulate students' will so that they can encourage the teaching and learning process (Kulbi, 2019).

The use of learning media is not just an effort to help teachers but also helps students in education. Because by using the press, the students' minds will focus more on what is conveyed by the educator or teacher and can increase student understanding and receive messages properly (Abdullah et al., 2019).

Each subject requires learning media to package its message to convey it easier. This learning media is needed to stimulate thoughts, feelings, attention, and interest and attention so that the teaching and learning process occurs and can facilitate the delivery of the Islamic Religion. (Aldya & Arifendi, 2021).

From the statement above, the use of learning media at the teaching orientation stage will greatly help the effectiveness of the learning process and the delivery of messages and content of subject matter at that time. In the educational process, many media are used, such as visual media, audio media, visual media, and many more. Meanwhile, according to Mahfud Salahuddin, the basis for using the media is religious, psychological, and technological.

Islamic learning media can be used to increase teaching and learning interactions. Therefore, the principles of its use must be observed. And the use of this learning media must also be beneficial for students and educators because both will get new knowledge. Even in the Al-Quran, it has been recommended to create means to acquire knowledge:

يَمْعَشَرِ الْجِنَّ وَالْإِنْسِ إِنِ اسْتَطَعْتُمْ أَنْ تَنْفُذُوا  
مِنَ أَقْطَارِ السَّمَوَاتِ وَالْأَرْضِ فَانْفُذُوا ۚ لَا  
تَنْفُذُونَ إِلَّا بِسُلْطَانٍ

Artinya: *O company of jinn and men, if ye have power to penetrate (all) regions of the heavens and the earth, then penetrate (them)! Ye will never penetrate them save with (Our) sanction.* (Q.S. ar-Rahman: 33)

The verse above contains a hint that humans must have the strength to overcome the gravitational pull of the earth when humans want to penetrate the corners of the sky, leaving the world. In advanced times like today, the word power is the mastery of science and technology regarding rocketry that can deliver humans into outer space (Batubara & Syahputri, 2020).

Safaat explained that Android is an operating system for Linux-based mobile devices, including an operating system, middleware, and applications. Android provides an open platform for developers to create their applications (Safaat, 2012). Meanwhile, according to Yosef Murya, Android is a Linux-based operating system used for cellular (mobile) phones

such as smartphones and tablet computers. (Murya, 2014)

Along with that, many people want something simple, easy, and fast, especially people who have a very high level of activity (Rosid, 2020). Android applications are useful). One of the principles of using learning media based on Android applications is that in using media, students must be prepared and required as active participants and must take responsibility during learning activities; it is an effort to generate motivation in the form of developing or arousing students' interest in wanting to learn, attracting students' attention. To always be involved in teaching and learning activities (Gusman, 2021).

Based on the results of interviews with teachers of Islamic religious education, there needs to be more interest in learning to follow the lessons of class XI 7th SMK Negeri 7 students. The very crucial problem is that most students need to pay more attention to the teaching and learning process, which greatly disrupts the continuity of the teaching and learning process because it can disturb other students who want to pay attention. Students who do not pay attention cannot absorb the material better (Nadawiyah & Anggraeni, 2021).

Lack of interest in learning to participate in learning is caused by students needing to be more energized with the state of the teaching and learning process. Apart from that, from the author's observation, teachers who only

explain using PowerPoint slides result in low student interest in learning. At most, 50% of students show a high interest in education. Common student interest in learning impacts student learning outcomes which are only 38% complete, so 62% of students still need to complete their knowledge. This can be seen from the student learning outcomes of 36 students, who got a score of 80 for six students, who got a score of 70 for four students, who got a score of 40 for fifteen students, who got a score of 55 for ten students, and who got a score of 20 for one student. At the same time, the minimum completeness criterion in Islamic religious education subjects is 76.

According to Slameto, interest has a major influence on learning, both the process and the results; that is, if the material being studied is following students' interests, students will learn better because there is no attraction for them. Susanto's opinion supports this that the interest factor is a factor that influences the success of student learning significantly. Therefore, in this study, researchers focused more on aspects of interest in learning about student learning outcomes (Slameto, 1987).

With interest in learning in students, it will generate curiosity and pleasure in students to continue learning. Curiosity and joy in learning can be obtained from the material and how the teacher delivers the subject matter. If the lesson material and the way the teacher has the lesson are not following students' interests, students

will not study well because there is no attraction for them. (Zulkarnain & Yanto, 2022).

The learning process that could be more conducive and the low interest in student learning in the learning process will affect student achievement in Creative Products and Entrepreneurship. The lack of interest in student learning is due to the lack of effectiveness of the teacher in delivering the material, and the methods used are less attractive and do not vary. So it is feared that student learning achievement will be low and the three domains of education (cognitive, affective, and psychomotor) will not be achieved.

For this reason, it is necessary to have new learning media to improve the quality of the learning process. The learning media chosen is learning media based on Android applications that can increase students' interest in learning because this learning media is interesting, and the material in the application is very concise, so it is easy to understand.

In connection with the description above, this study aims to determine the effect of android application-based learning media on Learning Interests and Learning Outcomes of Islamic religious education Class XI SMK Negeri 7 Bandar Lampung. This research focuses on the *fardhu kifayah*.

The study's results are expected to be used as a reference for implementing learning media based on android applications on students' learning interest in class XI Islamic Religion education

subjects. In addition, this research also contributes to teachers' development of more innovative and creative learning in learning media based on Android applications on students' learning interests. It can be used as material for consideration for teachers in determining student learning media.

This research certainly has a distinction from other studies. To find out, the researcher also explored several previous studies, and the results can be concluded that the study of android-based learning media focuses on four things, namely: (1) focus on improving students' technological abilities, such as research on the use of android-based learning media in information system material (Kuswanto & Radiansah, 2018), the use of android-based learning media in graphic design lessons (Kuswanto, 2020), android-based learning media in programming subjects (Kusumadewi, 2016); (2) focus on improving learning outcomes, including research on its effectiveness in improving student learning outcomes (Putra et al., 2022), the effect of interactive learning media on student learning outcomes (Kartini & Putra, 2020), (3) focus on games education and early childhood, such as research on Arabic language design with android-based educational games (Putri, 2019), android-based kids learning educational games for early childhood (Jayanti et al., 2018), introduction of geometric shapes in early childhood using an Android-based application (Afni et al., 2021). Based on

previous research findings, there is a distinction, namely on the focus of the study, where this research focuses on the material handling of corpses, which is rarely done. Of course, the scarcity of this study is the target of novelty in this study.

## **METHOD**

This study used experimental research methods by dividing the subjects and objects studied into two parts: the treatment group that received treatment and the control group that did not. This research was conducted at SMK Negeri 7 Bandar Lampung, at Education, New Sukarame Street, Sukarame District, Bandar Lampung City, Lampung Province. At the same time, the research design uses a quasi-experimental design or quasi-experimental. The design form in this study used a nonequivalent Control Group Design; the experimental and control groups were not randomly selected. In this study, determining the experimental group and control group based on specific objectives, namely based on the material that researchers will use in implementing the android application for managing corpses.

The population in this study were all class XI students at SMK Negeri 7 Bandar Lampung in the even semester of the 2022/2023 academic year. The sample was taken using a purposive sampling technique. The purposive sampling technique is selecting a sample from small unit groups. The sample in this study were students in class XI

Multimedia and XI AKL1 at SMK Negeri 7 Bandar Lampung.

The research design was completely randomized (CRD) with two treatment factors and three replications. The first factor is the number of inoculums consisting of 3 treatment levels. The second factor is the length of fermentation which consists of 3 levels of treatment. Thus, this study had nine treatment combinations, namely 3x3 experimental units or experimental units for each experimental design. Determination of treatment repetition using the formula:  $(t-1)(r-1) \geq 15$ .

Data collection techniques using: (1) questionnaire (questionnaire) Likert scale models; (2) documentation of photos, archives, letters, geographical location, school records such as student lists, organizational structure, teacher personnel, condition of students at SMK Negeri 7 Bandar Lampung; (3) observation, directly observing research objects related to learning interest and student learning outcomes in Islamic religious education subjects at SMKN 7 Bandar Lampung. Data analysis was carried out with the following steps:

### 1. Data Analysis Prerequisite Test

Before carrying out the statistical analysis technique to be used, check the sample's validity, namely the normality test and homogeneity test.

#### a. Normality Test

In this study, the normality test used was the Liliefors test. The data processing uses SPSS 22. With the following criteria:

- If  $L_{count} < L_{table}$ , then  $H_0$  is accepted and the data is normally distributed
- If  $L_{count} > L_{table}$ , then  $H_0$  is rejected and the data is not normally distributed

Hypothesis test:

- $H_0$ : The data comes from a normally distributed population
- $H_a$ : Data comes from populations that are not normally distributed

#### b. Homogeneity Test

The homogeneity test in this study was carried out by Fisher's test at a significance level of 0.05, the formula is as follows:

$$F = \frac{\text{biggest variance}}{\text{smallest variance}}$$

Dengan kriteria:

- $F_{count} < F_{table}$ , then the data is homogeneous
- $F_{count} > F_{table}$ , then the data not homogen (heterogen)

Homogeneity test hypothesis:

- $H_0$ = both groups come from homogeneous populations
- $H_a$ = the two groups did not come from a homogeneous population

## 2. Pengujian Hipotesis

To test the hypothesis with normally distributed and homogeneous data, the t-test is used with a significance level of  $\alpha = 0.05$ . The parametric t-test with the following formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1) S_1^2 + (n_2 - 1) S_2^2}{n_1 + n_2 - 2} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where t is t arithmetic, the t table is searched in the t distribution table with  $\alpha=5\%:2=2.5\%$  (2-sided test) with degrees of

freedom (df)  $n-2$ . After obtaining the size of  $t_{\text{count}}$  and  $t_{\text{table}}$ , testing is carried out with the following testing criteria:

- $H_0$  is accepted if  $-t_{\text{table}} \leq t_{\text{count}} \leq t_{\text{table}}$
- $H_0$  is rejected if  $-t_{\text{count}} < -t_{\text{table}}$  or  $t_{\text{count}} > t_{\text{table}}$

Based on the significant value or probability value, namely:

- If the sig value  $> 0.05$ ,  $H_0$  is accepted.
- If the sig value  $< 0.05$ ,  $H_0$  is rejected.

If the data is not normally distributed, testing the hypothesis in the study uses nonparametric statistical tests.

The statistical hypothesis to be tested in this study is: (a)  $H_0 : \mu_a = \mu_b$ , (b)  $H_a : \mu_a > \mu_b$ .

The description of the hypothesis formula is as follows:

#### 1. The First Hypothesis

- $H_0$  : There is no significant influence between android-based applications for handling corpses in Islamic Religious Education learning on students' learning interests.
- $H_a$  : A significant influence exists between android-based applications for the fardhu kifayah in Islamic Religious Education learning on students' learning interests.

#### 2. The second hypothesis

- $H_0$  : There is no significant influence between android-based applications for the fardhu kifayah

in Islamic Religious Education learning on student learning outcomes.

- $H_a$  : A significant influence exists between android-based applications for the fardhu kifayah in Islamic Religious Education learning on student learning outcomes.

## RESULT AND DISCUSSION

In this chapter, the results of the research carried out along with their discussion will be presented, which will outline the description of the data, test the prerequisites for analysis, test the hypotheses, and discuss the research results.

### Data Description

The description of the data obtained in this study will be presented regarding the mean, median, mode, and standard deviation of each indicator of student interest in learning, namely feelings of pleasure, interest, acceptance, and student involvement. At the same time, the indicators of student learning outcomes are cognitive, affective, and psychomotor. The research data is divided into two research data: the Multimedia class (MM) as experimental class data and Accounting class I (AKL.1) as control class data. The experimental class will be treated using learning media while the control class will take lessons as usual, namely material in the form of PowerPoint and lectures.

Data about students' feelings of pleasure, interest, acceptance, and involvement in this study were obtained through a questionnaire with 20 items. The scores used in the questionnaire are 1 to 4, so based on these scores, it ranges from 20 to 80. In addition, student learning outcomes question sheets were seen from cognitive, affective, and psychomotor data in this study obtained through multiple choice questions with a total of 25 questions. As for the score used in the problem, if 1 question is correct, you get a score of 4 with an explanation ( $4 \times 25 = 100$ ).

1. Research Instrument Validation Test

a. Questionnaire Validation test result

The results of the questionnaire validation test on interest in learning Islamic Religious Education that the researchers did were 26 question items; the questionnaire contained 20 valid question items and six invalid items, namely numbers.

b. Multiple Choice Question Validation Test Results

The results of the validation test of multiple choice questions on learning outcomes in Islamic Religious Education that the researchers did were 30 multiple choice test items, of which 25 valid multiple choice test items and five multiple choice questions were invalid, namely numbers.

2. Questionnaire Score Data and Student Grades

The descriptive data in this study were divided into two classes, namely the

experimental and control classes. These two classes will be sought how much interest in learning and student learning outcomes before and after treatment. Calculation results are as follows:

**Table 1.** Experiment Class Questionnaire

No	Respondent	X	Y	Total
1	A1	27	40	67
2	A2	27	39	66
3	A3	32	48	80
4	A4	31	40	71
5	A5	32	48	80
6	A6	32	48	80
7	A7	31	45	76
8	A8	30	45	75
9	A9	25	36	61
10	A10	30	41	71
11	A11	25	37	62
12	A12	26	42	68
13	A13	31	42	73
14	A14	22	35	57
15	A15	26	37	63
16	A16	29	42	71
17	A17	31	41	72
18	A18	28	45	73
19	A19	27	43	70
20	A20	30	46	76
21	A21	26	37	63
22	A22	29	43	72
23	A23	25	36	61
24	A24	28	43	71
25	A25	25	43	68
26	A26	30	43	73
27	A27	29	42	71
28	A28	32	42	74
29	A29	25	40	65
30	A30	32	47	79
31	A31	32	42	74
32	A32	25	39	64
33	A33	32	42	74
Highest Score				80
Lowest score				57

The results of the experimental class descriptive statistical calculations obtained a total score of an average



(mean) of 70.3, a mode of 71, a median of 71, and a final total score of 20 questions 1-4 with a range of scores of 20-80, with a definitive score of 20 and a low score of 80. The percentage of student learning interest scores from the maximum value in the experimental class is  $(70.33/80) \times 100\% = 87.91\%$ . This means that the scores of experimental students' interest in learning are high by using media based on android applications.

**Table 2.** Control class questionnaire score

No	Respondent	X	Y	Total
1	A1	16	33	49
2	A2	24	43	67
3	A3	18	36	54
4	A4	25	39	64
5	A5	21	34	55
6	A6	25	43	68
7	A7	19	38	57
8	A8	28	40	68
9	A9	23	38	61
10	A10	23	41	64
11	A11	20	36	56
12	A12	24	43	67
13	A13	22	40	62
14	A14	19	30	49
15	A15	18	38	56
16	A16	25	43	68
17	A17	20	42	62
18	A18	24	39	63
19	A19	21	43	64
20	A20	25	37	62
21	A21	21	42	63
22	A22	23	39	62
23	A23	25	40	65
24	A24	23	41	64
25	A25	20	33	53
26	A26	22	37	59
27	A27	25	40	65
28	A28	24	42	66
29	A29	28	39	67
30	A30	18	38	56
31	A31	24	38	62
32	A32	29	40	69

33	A33	25	42	67
34	A34	20	34	54
35	A35	15	38	53
Highest Score				69
Lowest score				49

The results of the descriptive statistical calculations for the experimental class obtained a total score of an average (mean) of 61.36, a mode of 62, a median of 62, and a final total score of 20 questions 1-4 with a range of scores of 20-80, with a definitive score of 20 and a low score of 80. The percentage of student learning interest scores from the maximum value in the experimental class is  $(61.36/80) \times 100\% = 76.7\%$ . This means that the score of the control students' interest in learning is classified as normal by using PowerPoint.

**Table 3.** Student learning outcomes before being given treatment

No	Respondent	Score
1	A1	40
2	A2	47
3	A3	52
4	A4	56
5	A5	56
6	A6	60
7	A7	60
8	A8	56
9	A9	56
10	A10	50
11	A11	56
12	A12	72
13	A13	50
14	A14	58
15	A15	58
16	A16	56
17	A17	50
18	A18	56
19	A19	50
20	A20	60
21	A21	52
22	A22	56

23	A23	60
24	A24	52
25	A25	50
26	A26	56
27	A27	40
28	A28	52
29	A29	50
30	A30	64
31	A31	45
32	A32	65
33	A33	52
Highest Score		72
Lowest score		40
Mean		54,33

The results of the descriptive statistical calculations for the experimental class obtained an average score (mean) of 52.30, a mode of 56, a median of 56, a standard deviation of 9.99, and a total value of 100. The percentage of student learning outcomes from the maximum score in the experimental class is 53. This means that experimental student learning outcomes before were classified as mediocre. It should be noted that the minimum completeness criterion value for Islamic Religion education at SMK Negeri 7 is 76, which can be seen from the learning outcomes obtained from 33 students; no score reached the minimum completeness criteria. Shows that the experimental class before treatment is normal.

**Table 4.** Value before being given treatment

No	Respondent	Score
1	A1	40
2	A2	56
3	A3	40
4	A4	50
5	A5	56
6	A6	54
7	A7	44

8	A8	48
9	A9	36
10	A10	44
11	A11	56
12	A12	30
13	A13	52
14	A14	36
15	A15	50
16	A16	40
17	A17	60
18	A18	62
19	A19	56
20	A20	40
21	A21	48
22	A22	30
23	A23	36
24	A24	56
25	A25	48
26	A26	56
27	A27	60
28	A28	56
29	A29	30
30	A30	50
31	A31	40
32	A32	52
33	A33	64
34	A34	44
35	A35	52
Highest Score		64
Lowest score		30
Mean		47,76

The results of the experimental class descriptive statistical calculations obtained a total score of average (mean) 49.69, mode 56, median 52, standard deviation 9.64, and total value 100. The percentage of student learning outcomes from the maximum value in the control class is 50. This means that the score of the control student's learning outcomes before was classified as mediocre. It should be noted that the minimum completeness criterion value for Islamic religious education at SMK Negeri 7 is 76.

It can be seen from the learning outcomes obtained from 35 students, there is no value that reaches the minimum completeness criteria. Shows that the control class before treatment is normal.

**Table 5.** Posttest scores for the experimental class

No	Respondent	Score
1	A1	72
2	A2	68
3	A3	52
4	A4	92
5	A5	100
6	A6	100
7	A7	92
8	A8	84
9	A9	80
10	A10	92
11	A11	96
12	A12	72
13	A13	56
14	A14	58
15	A15	84
16	A16	72
17	A17	64
18	A18	80
19	A19	88
20	A20	76
21	A21	82
22	A22	80
23	A23	92
24	A24	76
25	A25	76
26	A26	84
27	A27	64
28	A28	80
29	A29	96
30	A30	92
31	A31	60
32	A32	92
33	A33	60
Highest Score		100
Lowest score		52
Mean		79,15

The results of the descriptive statistical calculations for the experimental class obtained the average score (mean) 79.15152, mode 92, median 80, standard deviation 13.266678, and total value 100. The percentage of student learning outcomes from the average value in the experimental class was 79.15. This means that the value of the experimental class student learning outcomes after treatment is high. It should be noted that the minimum completeness criterion value for Islamic religious education at State Vocational School 7 is 76, which can be seen from the learning outcomes obtained from 33 students, who achieved the minimum completeness criteria of 22 students while those who did not reach the minimum completeness criteria of 11 students. Shows that the experimental class after treatment is classified as high.

**Table 6.** Posttest values of the experimental class

No	Respondent	Score
1	A1	56
2	A2	64
3	A3	52
4	A4	72
5	A5	60
6	A6	64
7	A7	52
8	A8	60
9	A9	44
10	A10	60
11	A11	70
12	A12	60
13	A13	76
14	A14	62
15	A15	52
16	A16	48
17	A17	76

18	A18	76
19	A19	64
20	A20	60
21	A21	68
22	A22	48
23	A23	68
24	A24	72
25	A25	52
26	A26	80
27	A27	84
28	A28	76
29	A29	48
30	A30	56
31	A31	48
32	A32	76
33	A33	88
34	A34	60
35	A35	56
Highest Score		88
Lowest score		44
Mean		63,27

The results of the experimental class descriptive statistical calculations obtained the average score (mean) 63.27273, mode 60, median 60, standard deviation 11.49248, and total value 100. The percentage of student learning outcomes is higher than the average value in the experimental class is 63.27. This means that the value of student learning outcomes in the control class after treatment is classified as normal. This means that the value of the experimental class student learning outcomes after treatment is high. It should be noted that the minimum completeness criterion value for Islamic religious education at State Vocational School 7 is 76, which can be seen from the learning outcomes obtained from 35 students, who achieved the minimum completeness criteria of 8 students while those who did

not reach the minimum completeness criteria of 27 students. Shows that the control class after treatment is classified as unsuccessful.

### 3. Description of Learning Activities

#### a. Experiment class

At the first meeting, the Islamic Religious Education teacher at SMK Negeri 7 introduced the researcher to the class and invited him to introduce himself and convey the research objectives. In the second hour, the teacher gives pretest questions and asks students to fill in the questions given; before the pretest questions are distributed, the teacher first explains the questions to be answered by students in multiple choice form and consists of 25 questions. After explaining, the teacher distributed the questions to 33 students. In the third to fourth hours, students fill in the questions that the teacher has distributed. When filling out the questions in progress, students looked enthusiastic; some asked because they did not understand; some students already understood some of the questions and explained them to their desk mates, some students were just ignorant, and some students only focused on the questions.

At the second meeting, at the beginning of class, the teacher invited students to prepare for class. Starting with praying and greeting, the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare LCDs, Laptops, and others; before the teacher delivers the

material, the teacher introduces the Android-based application in the Playstore and invites students to open their cell phones. After that, the teacher asked students to visit the Play Store, look for the fardhu kifayah application, and install it on each student's cellphone. After all, the applications are installed and installed; the teacher asks students to open the application. In addition to students opening the material in the application, the teacher also provides material in the form of power points. Previously, the teacher started and invited students to pay attention to the Application for Handling the Body. While listening to the teacher explaining the material, which took place from the second to the third hour, students looked enthusiastic about receiving the material. After entering the break, starting at four o'clock, the teacher invites students to ask questions about the material explained by the teacher. Some students asked, answered the teacher's questions, and kept silent. After the end of the lesson, the teacher closes the lesson by reminding students to be able to absorb the material well, followed by an assembly prayer and closed with greetings.

At the third meeting, the teacher entered the class and invited students to prepare for class. Starting with praying and greeting, the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare LCDs, laptops, and cellphones for each student and others;

after that, the teacher invites students to open the fardhu kifayah application, followed by the teacher asking students about yesterday's material. The teacher continued the material that was explained last week to the students. The teacher has not started learning because the class situation is still not conducive, and some still need to open the application. After everything looks conducive, the new teacher starts learning in the second hour until the third hour. When the teacher started explaining, the students paid attention enthusiastically, and the students played the sound recording of the intention to bathe and the readings in shooting the bodies and prayers for the bodies of the students looked very happy; students said that this application made it easier for students to be able to study anywhere, and the material was very easy to understand. "In the fourth hour, the teacher continued the material until it was finished, especially in the fardhu kifayah Chapter. After that, the teacher asked the students to repeat what the teacher had explained. Of the several students asked to explain, all students could repeat. After the end of the lesson, the teacher closes the lesson by reminding students to be able to absorb the material well and provides information that a posttest will be held at the next meeting, followed by an assembly prayer and closed with greetings.

At the fourth meeting, the teacher entered the class and invited students to prepare for class. Starting with praying

and greeting, the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare themselves for the posttest on the material explained by the teacher. The teacher asks students to keep books related to the material (books on Islamic religious education), and collect cellphones on the teacher's desk. The teacher only asks students to prepare writing instruments such as pens, pencils, etc. The teacher explained that from the first hour to the second hour, students worked on post-test questions in the form of 25 multiple-choice questions. In the third to fourth hours, students filled out a questionnaire provided by the teacher totaling 20 questions. Afterward, the teacher distributes multiple-choice question sheets to students and invites them to fill them out. After students have completed the post-test, students collect answer sheets. In the third to fourth hour, the teacher gives a questionnaire containing questions; before distributing it to students, the teacher explains how to fill it in and the score's weight for each question. After all, students understand that the teacher has started distributing questionnaires, and students are welcome to fill out the questionnaire. The teacher invites students to collect those who have completed filling out the questionnaire after all students collect. In the last hour, the teacher thanked the students and explained that they had completed research at SMK N 7 Bandar Lampung, especially in class XI MM. and ends with

the teacher closing the lesson by reminding students to be able to absorb the material well and be able to apply it to social life, followed by an assembly prayer and closed with greetings.

b. Control class

At the first meeting, the Islamic Religious Education teacher at SMK Negeri 7 introduced the researcher to the class and invited him to introduce himself and convey the research objectives. In the second hour, the teacher gives pretest questions and the teacher asks students to fill in the questions given; before the pretest questions are distributed, the teacher first explains the questions to be answered by students in multiple choice form and consists of 25 questions. After explaining, the teacher distributed the questions to 35 students. In the third to fourth hours, students fill in the questions that the teacher has distributed. When asking questions in progress, some students ask because they do not understand, some students ignore them, some students have started to make noise and discuss themselves behind their backs, and some students disturb friends who are currently focused.

At the second meeting, the teacher entered the class and invited students to prepare for class. Starting with praying and greeting, the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare LCD, laptops, and others; after that, the teacher provides material using the ppt that the teacher has

prepared. Before the teacher started, the teacher invited students to prepare notebooks so students could record important parts. From the second to the third hour, the teacher starts explaining the material in the fardhu kifayah Chapter. After entering the break, starting at four o'clock, the teacher invites students to ask questions about the material explained by the teacher. Some students asked questions, some were just silent, and students were pointing at each other to ask and answer the teacher's questions; some students even did not record what the teacher had explained. After the end of the lesson, the teacher closes the lesson by reminding students to be able to absorb the material well, followed by an assembly prayer and closed with greetings.

At the third meeting, the teacher entered the class and invited students to prepare for class. Starting with praying and greeting, after that the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare LCDs, laptops and others, after that the teacher asks students about yesterday's material, then the teacher continues the material that was explained last week to students. The teacher has not started learning because the class situation is crowded, and does not pay attention to the lesson. There are students who go in and out when the teacher is already in the classroom. After everything looks conducive, the new teacher starts learning in the second hour until the third hour.

When the teacher begins to explain the students are paying attention and some students do not seem to be paying attention, and there are those who record learning and some who do not record learning. At the fourth hour the teacher continued the material until it was finished, especially in the fardhu kifayah Chapter then in the middle of the road when the teacher explained that there were students who were chatting or having fun with their seatmates, then at that time the teacher asked the student to repeat what the teacher had explained. There were some students who could explain again, there were also some students who could not explain. After the end of the lesson the teacher closes the lesson by reminding students to be able to absorb the material well, and provides information that a posttest will be held at the next meeting, followed by an assembly prayer and closed with greetings.

At the fourth meeting, the teacher entered the class and invited students to prepare for class. Starting with praying and greeting, the teacher checks the presence of students by taking students' attendance one by one. The teacher asks students to prepare themselves for the post-test on the material explained by the teacher. The teacher asks students to keep books related to the material (Islamic religious education books) and hides cell phones in bags. The teacher only asks students to prepare writing instruments such as pens, pencils, etc. The teacher explained that from the first hour to the

second hour, students worked on post-test questions in the form of 25 multiple-choice questions. In the third to fourth hours, students filled out a questionnaire provided by the teacher totaling 20 questions. Afterward, the teacher distributes multiple-choice question sheets to students and invites them to fill them out. After students have completed the post-test, students collect answer sheets. In the third to fourth hour, the teacher gives a questionnaire containing questions; before distributing it to students, the teacher explains how to fill in and the weight of the score for each question. After all, students understand that the teacher has started distributing questionnaires, and students are welcome to fill out the questionnaire. The teacher invites students to collect those who have completed filling out the questionnaire after all students collect. In the last hour, the teacher thanked the students and explained

that they had completed research at SMK N 7 Bandar Lampung, especially in class XI AKL.I. and ended with the teacher closing the lesson by reminding students to be able to absorb the material well and be able to apply it to social life, followed by an assembly prayer and closed with greetings.

### Test Requirements Analysis

The prerequisites for data analysis were first tested which included the Normality Test and Homogeneity Test.

#### 1. Normality Test

Normality test using a significance level of 0.05. Can be declared normally distributed if the significance is greater than 5% or 0.05.

##### a. Learning interest Normality Test

##### 1) Experiment Test

After testing the data using SPSS, the table below shows the results of calculating the normality test for the Learning Interest:

### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Skor X Eksperimen	.149	33	.061	.907	33	.008
Skor Y Experimen	.130	33	.172	.958	33	.230

After testing the data using SPSS, the calculation of the normality test for the Learning Interest variable (Y1) obtained sig. (significance)/ p-value 0.061 > 0.05; thus, the data on the learning interest variable in the experimental class is normally distributed because it shows sig. 0.061 is greater than 0.05. the learning interest variable in students is normally distributed

and has fulfilled the data analysis requirements

##### 2) Control Class

After testing the data using SPSS, the results of the calculation of the normality test appear for the Learning Interest variable of students who are not treated with the use of android learning media:



**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Skor X Kontrol	.126	35	.177	.969	35	.416
Skor Y Kontrol	.143	35	.069	.932	35	.031

After testing the data using SPSS, the calculation of the normality test for the Learning Outcome variable (Y1) obtained sig. (significance)/ p-value 0.177 > 0.05; thus, the data on the learning interest variable in the control class is normally distributed because it shows sig. 0.177 is greater than 0.05. The data above concludes that students' learning interest variable is

normally distributed and has fulfilled the data analysis requirements.

b. Learning Outcome Normality Test

1) Experiment class

After testing the data using SPSS, the table below shows the results of calculating the normality test for the Learning Outcomes variable:

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Ekperimen	.145	33	.075	.956	33	.198
Posttest Eksperimen	.133	33	.148	.954	33	.179

After testing the data using SPSS, the calculation of the normality test for the Learning Outcome variable (Y2) obtained sig. (significance)/ p-value 0.075 > 0.05; thus, the data on the learning outcome variable in the experimental class is normally distributed because it shows sig. 0.075 is greater than 0.05. The data above concludes that the student

learning outcomes variables are normally distributed and have fulfilled the data analysis requirements.

2) Controll Class

After testing the data using SPSS, the table below shows the results of calculating the normality test for the Learning Outcomes variable:

**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Kontrol	.122	35	.200*	.950	35	.113
Posttest_Kontrol	.121	35	.200*	.961	35	.250

After testing the data using SPSS, the calculation of the normality test for the Learning Outcome variable (Y2) obtained sig. (significance)/ p-value 0.200 > 0.05; thus, the data on the learning outcome variable in the control class is normally distributed because it shows sig. 0.200 is greater than 0.05. The data above concludes that the student learning outcomes variables are normally distributed and have fulfilled the data analysis requirements.

## 2. Homogeneity Test

The test used in the homogeneity test is the F test. The data for this test are divided into two classes, namely the experimental class and control class before treatment and the experimental class and control class after treatment. More details can be seen below:

### a. Homogeneity of Learning outcomes

After testing the data using SPSS, the results appear as follows:

### Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Minat Belajar	Based on Mean	.004	1	66	.948
	Based on Median	.020	1	66	.887
	Based on Median and with adjusted df	.020	1	65.624	.888
	Based on trimmed mean	.014	1	66	.906

$$F_{hitung} = \frac{35.917}{32.499} = 0,001$$

The calculated F value is compared with the F table. With an error level set at 5%, the value of F table is 1.790. The results of the F test above show that the calculated F value is 0.001 and the table

value is 1.790. So  $H_0$  : accepted and  $H_a$  : rejected, so it can be concluded that the sample variance is homogeneous.

### b. Homogeneity learning outcomes

After testing the data using SPSS, the results appear as follows:

### Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Hasil Belajar	Based on Mean	.961	1	66	.331
	Based on Median	.838	1	66	.363
	Based on Median and with adjusted df	.838	1	65.639	.363
	Based on trimmed mean	.931	1	66	.338

$$F_{hitung} = \frac{181.508}{129.728} = 1,399$$

The calculated F value is compared with the F table. With an error level set at 5%, the value of F table is 1.790. The results of the F test above show that the calculated F value is 1.399 and the table value is 1.790. So  $H_0$ : accepted and  $H_a$  : rejected, so it can be concluded that the sample variance is homogeneous.

### Hypothesis Testing Results

a. Learning interest Hypothesis test result

The Learning Interest Hypothesis states that there are differences in the level of student interest in learning between the experimental class and the control class after treatment. After analyzing using the t test formula, the following results are obtained:

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Minat Belajar	Equal variances assumed	.004	.948	6.461	66	.000	16.066	3.019	10.038	22.094
	Equal variances not assumed			6.45	65.21	.000	16.066	3.034	10.002	22.130

By comparing the magnitude of the t value obtained by the calculation data (t count = 6.461) and the size of the t table (t table = 1.668), it can be seen that t count > t table, namely: 6.461 > 1.668. Because tcount is greater than ttable, the null hypothesis is rejected. This means that there is a significant difference between the experimental class and the control class after treatment learning using android-based learning media on fardhu kifayah material.

### Results of Learning Outcomes Hypothesis Test

The Learning Outcomes Hypothesis states that there are differences in the level of student interest in learning between the experimental class and the control class after treatment learning using android-based learning media on fardhu kifayah material. After analyzing using the t test formula, the following results are obtained:

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Minat Belajar	Equal variances assumed	.961	.331	5.321	66	.000	16.066	3.019	10.038	22.094
	Equal variances not assumed			5.295	62.813	.000	16.066	3.034	10.002	22.130

By comparing the t value obtained by the calculation data (t count = 5.321) and the t table (t table = 1.668), it can be seen that t count > t table, namely: 5.321 > 1.668. Because tcount is greater than ttable, the null hypothesis is rejected. This means that there is a significant difference between the experimental class and the control class after treatment.

#### Discussion of Research Results

Interest in learning and learning outcomes using an android-based application for the fardhu kifayah achieved by SMK Negeri 7 Bandar Lampung students are generally influenced by internal and external factors. This study revealed the factors that influence learning Interest and learning outcomes, namely learning with the help of media based on android

applications. This study uses two classes: the control class (the class does not use Android-based media applications) and the experimental class (the class uses Android-based media applications).

- a. Interest in student learning after being given treatment

The analysis results obtained that students' Interest in learning using the android-based media application Depending on Corpses was classified as high. Android-based application media influences student learning. Interest in the material for handling corpses in the subject of Islamic Religious Education at SMK Negeri 7 Bandar Lampung. This strengthens the theoretical description that using android application-based learning media in the teaching and learning process can generate new desires and interests,

generate motivation and stimulate learning activities as well as bring a psychological influence on students, even being able to arouse student interest and motivation.

Most of the students said that the media based on the android application for fardhu kifayah was useful to help them understand the material and make it easier for them to study anywhere. The attention and enjoyment of students have a positive impact on students' learning interests. Good media can certainly increase the attention and feelings of pleasure of students. Increased attention and pleasure and the activeness of students to ask questions can increase the Interest in learning from students so that learning achievement will increase. (Mustafa & Bakar, 2023).

Based on the assumptions above, the android application-based media students use is good because it will affect students' learning interest in the Chapter on Organizing fardhu kifayah material. It can be understood that learning after treatment has the desire, attention, and feelings of pleasure in learning the Chapter on Organizing the Body. In this case, students have a great desire to try to master the material and apply it in life, so the possibility of learning outcomes tends to be high. Thus, it is proven that Interest in learning significantly affects student achievement in the material for the fardhu kifayah Chapter with android application-based media used by students.

a. Differences in student learning interest in the experimental and control classes after treatment.

The analysis results obtained that the value of count is greater than the table, so there is a significant difference between the experimental class and the control class after treatment. From the results of observations from several aspects observed for the control class, several students were still busy, needed to pay attention to the lesson, still needed more questions, and were a little active. There were still some who were noisy. Based on the observational data, students still need to improve their enthusiasm and desire to attend the lesson. Their attention is still focused on their classmates, and looks bored in the learning process. In the experimental class, there were changes from the first to the fourth meeting, and there were students who asked questions, expressed ideas, and had enthusiasm in paying attention to the lesson (Azhar, 2012).

The results of the description of the test data for the research instrument found that the increase in student interest in learning with the use of learning media based on the android application Fardhu Kifayah in the experimental class was greater than in the control class. In the experimental class, students' interest in learning increased by 87.91%, while in the control class, student's interest in learning increased by 76.7%. Judging from the percentage of students' interest in learning, there are differences in students'

learning interests in the control class and practical classes after treatment.

b. Student learning outcomes before being given treatment

The insignificant difference in learning outcomes in the experimental class and the control class before treatment does not mean that before treatment, the learning outcomes of each class are the same, meaning that even though they are the same, the differences are small. This is presumably because not all students have a good ability to receive the material. Therefore, in the teaching and learning process in the classroom, a teacher should increase creativity in the teaching and learning process, and make it interesting and not boring so that students can receive the material well and will produce good grades.

According to the analysis of this research data, the learning outcomes of students in the experimental class and control class before treatment were still relatively ordinary. Several internal factors and external factors can influence student learning outcomes. Internal factors are factors that exist within the individual who is learning, while external factors are factors that exist outside the individual. These two aspects greatly influence student learning outcomes. Learning outcomes are changes in behavior and overall abilities that students obtain after experiencing learning experiences, including the cognitive, affective, and psychomotor domains. To find out that students have

experienced changes in behavior, an indicator is needed as a measure of how much students obtain the results after experiencing learning activities. Looking at the indicators of learning outcomes that in learning outcomes are required to develop three domains that have been the cognitive, affective, and psychomotor domains.

This study was only focused on one of the domains in the theory of learning outcomes, namely only on the cognitive domain. This study later only measured the effect of learning outcomes obtained by students, which in this research was needed and empowered an understanding of the cognitive domain. For this reason, encouragement is needed to arouse students' learning enthusiasm in understanding the material to get maximum results. With the Android application-based learning media, students are expected to feel happy in learning, pay attention, and understand the material presented (Arief, 2002).

Based on the data description results, student learning outcomes at SMK Negeri 7 Bandar Lampung have learning outcomes with minimum completeness criteria 76. Therefore, by looking at minimum completeness criteria, it is possible to improve learning outcomes by utilizing student cell phones in delivering material related to the fardhu kifayah sub. The android-based application media Depending on fardhu kifayah is not only used in delivering material by teachers, but students can also open and study

Android-based application media at home because students can access it anywhere, and it is easy to use because it is already available on playstore. Thus, the existence of learning media based on android applications is expected to positively impact the learning process so that students can get maximum learning outcomes.

c. Improved student learning outcomes after being given treatment

The analysis results obtained that the value of the t-count is greater than the t-table, so it can be concluded that there is a significant difference in the experimental class before and after being treated. Through the results of student achievement in the experimental class, the learning outcomes of 80 were influenced by Android application-based media, so students wanted to learn about fardhu kifayah material. Learning methods and media in schools need to be maximized, such as using projectors to display material and school computers to be used as learning tools by students. External factors to get maximum learning outcomes, educators must be able to guide and appreciate the abilities of students because teachers influence success. Because the material in the fardhu kifayah chapter is not just material that students receive but this material is how students can apply it in social life, so the teacher must try to provide a special attraction in learning fardhu kifayah at SMK Negeri 7 Bandar Lampung so that students get maximum learning outcomes.

By looking at the assumptions above, the increase in student learning outcomes is influenced by the media treatment based on the android application fardhu kifayah in learning Islamic Religious Education at SMK Negeri 7 Bandar Lampung, namely increasing positive student learning activities on Material fardhu kifayah using Android-Based Applications at SMK Negeri 7 Bandar Lampung.

d. Differences in student learning outcomes in the experimental and control classes after treatment.

The results of the analysis obtained that the value of the t-count is greater than the t-table, so it can be stated that there is a significant difference between the experimental class and the control class after treatment. From the observations of several aspects observed for the control class, there were still some busy students who needed to pay attention to the lesson and ask more questions, and there was still some noise. Judging from the observational data, the enthusiasm and desire to pay attention to the lesson are still lacking in students. Their attention is still focused on their classmates, and looks bored in the learning process. In the experimental class, there were changes from the first to the fourth meeting, and there were students who asked questions, expressed ideas, and had enthusiasm in paying attention to the lesson.

The results of the description of the test data for the research instrument found

that the increase in student learning outcomes with the use of learning media based on the android application *fardhu kifayah* in the experimental class was greater than in the control class. In the experimental class, the student learning outcomes were 80, while the control class obtained 64 student learning outcomes from before. Judging from student learning results, there are differences in student learning outcomes in the control class and the experimental class after treatment.

## CONCLUSION

Based on the data analysis in this study, the study's conclusions are as follows: (1) Students' interest in learning after the treatment of media based on the android application *fardhu kifayah* was 87.91%. Students said learning with the media based on the android application *fardhu kifayah* could help them understand the material well. Students were very happy learning using the media based on the android application. Depending on *fardhu kifayah*. (2) The results of student learning in the experimental class before the treatment of students obtained an average value of 52.30. after treatment, students get an average value of 79.15. At the same time, the control class before treatment obtained a value of 49.69. after treatment, students get a value of 63.27. (3) There is a significant difference in learning interest between the experimental and control classes after treatment on the competency of using media based on android application tools at SMK Negeri 7 Bandar Lampung.

This is indicated by the t-count of 6.416, greater than the t-table of 1.668. Because t-count is greater than t-table, the null hypothesis is rejected. This means that there is a significant difference between the experimental class and the control class after treatment. (4) Significant differences in learning outcomes between the experimental class and the control class after treatment on the competency of using android-based media at SMK Negeri 7 Bandar Lampung. This is indicated by the t-count of 5.321, greater than the t-table of 1.668. Because t-count is greater than ttable, the null hypothesis is rejected. This means that there is a significant difference between the experimental class and the control class after treatment. Based on the discussion of the research results and the conclusions drawn in this study, several implications can be put forward that this study found a positive effect of the media based on the android application "Crime Guide" on learning interest and student learning outcomes. This shows that the media plays an important role, especially in students' feelings of pleasure, interest, acceptance, and involvement. As well as learning experiences that include cognitive, affective, and psychomotor domains.

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