

# KOPLAK Animation: Development Design for PAI and Ethics Education Media Using the Problem Based Learning Method

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## Article Info

### Keywords:

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Problem Based Learning  
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Ethics education  
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## ABSTRACT

This research aims to develop innovative learning media that is easy for students to understand. This research uses the development model of Prof. Sugiyono with 7 phases, namely: searching for potential and issues, collecting data, product design, design validation, design revision, product testing, and product revision. The expert validation results were 94% (very feasible) and the efficiency test was 91% (very efficient). The pretest-posttest results for the SMPN 1 Moga 79 treatment class increased to 95.67. Class 8B control class SMPN 2 Pulosari 73.54 increased to 90.6. Class 8A control class SMPN 2 Pulosari 70.63 increased to 90.21. The Wilcoxon Sign Ranks Test results indicate an asymptotic significance value of 0.05.; Mann Whitney U-Test test is known to be Asymp. Sig. (2-tailed) between SMPN 1 Moga v SMPN 2 Pulosari (B) and SMPN 1 Moga v SMP Negeri 2 Pulosari (A) 0.05; The N-Gain test results for control classes A and B were 0.7 and 0.6 (medium) and treatment class A 0.8 (high). It can be deduced that a notable distinction exists in the effectiveness of utilizing animated media for funeral prayer material compared to employing the Problem Based Learning method in the context of learning PAI and Ethics Education (BP).

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## 1. INTRODUCTION

Nowadays, technological development is something that cannot be avoided because technological progress will go hand in hand with scientific progress [1]. Progress in the fields of science and technology will influence all aspects of life, such as in the fields of education, trade, agriculture, etc. [2]. Within the realm of education, educators must harness the full potential of advancements in science and technology to create and enhance learning tools [3]. Educational tools encompass instruments, methodologies, and approaches employed to enhance the efficiency of communication and interaction between educators and students during the schooling and instructional procedures [4]. According to Suprpto et al, learning media stands as an efficacious supportive instrument that instructors can utilize to attain their intended objectives [5].

Education that forms attitudes and morals in accordance with what Islam teaches and is able to apply them in everyday life is defined as Islamic Religious Education and Character Education [6]. For instance, in the topic of funeral prayers, the goal for students extends beyond mere theoretical proficiency. There is a desire for them to grasp the content thoroughly and implement it in their everyday activities. This approach emphasizes not only knowledge acquisition but also the practical implementation of the learned concepts into real-life situations. However, in fact, many students are reluctant to participate in the funeral prayer when a relative or neighbor dies because in general students do not really understand how to perform the funeral prayer.

Apart from using animated videos to attract students' attention, a learning model is also needed that can foster a sense of empathy when a neighbor or relative dies and joins in performing the funeral prayer [7]. The Problem-Based Learning (PBL) approach is appropriate as it promotes critical thinking, improves problem-solving abilities, and motivates students to connect knowledge with real-world issues. This approach goes beyond traditional rote memorization, emphasizing active engagement, collaboration, and the application of knowledge to solve authentic problems, preparing students for practical challenges in their future endeavors [8]. When integrated with animated video media, the PBL model is deemed appropriate for implementation in the educational process within schools [9].

Leveraging animated videos to apply the PBL model has the potential to enhance learning outcomes in both psychomotor and cognitive domains. This approach engages students in problem-solving scenarios presented through animated videos, promoting active participation and application of knowledge. As a result, it can lead to improvements in both hands-on skills (psychomotor) and cognitive understanding, creating a comprehensive and effective learning experience [10]. In summary, the swift progress of technology proves highly beneficial in the field of education [11]. The intricate content of the funeral prayer underscores the necessity for learning media, comprising visual and audio elements, to facilitate a more accessible understanding for students [12].

The need for innovative media and learning models must also continue to be explored in order to create students who are not only active in learning, but also able to implement it in everyday life [13]. According to unstructured interviews with PAI teachers, it was expressed that students require media that can boost their enthusiasm for learning and bring a fresh perspective to PAI education.

In light of the aforementioned issues, the objective of this research is to create educational media for learning purposes. Furthermore, in this study, effectiveness and efficiency tests were conducted to assess the products created, aiming to determine whether the media had an impact on the learning of Islamic Education (PAI).

## 2. METHOD

The research utilizes the Sugiyono development model, adapted from the Borg and Gall development model. This comprehensive model encompasses various stages in media creation. This involves recognizing possible issues and obstacles, gathering information, creating the product, confirming the design's validity, and making necessary design revisions, conducting product testing, and refining the product [14]. One of the notable advantages of this development model is its capability to yield a product with high validation value, achieved through a series of field trials and expert validations [15]. Apart from that, this model also encourages continuous product innovation so that it is hoped that products will emerge that are always in line with current developments.

The selection of research subjects used a random selection technique (Simple Random Sampling), namely by taking sample members from the population at random without considering the stratification that exists in the population [16]. From random sampling, research subjects were obtained at SMP N 1 Moga and SMP N 2 Pulosari. This research was designed to simulate a normal class in general with a population of 20-40 students.

In this research, data collection instruments comprised questionnaires, documentation, and interviews. This phase holds a pivotal role in the research process, serving as the bedrock for drawing conclusions based on the amassed information. Data collected through these instruments is subsequently analyzed following research and development procedures. The utilization of existing instruments ensures a systematic approach to gathering relevant information, and the subsequent analysis contributes to the generation of meaningful insights and conclusions within the research framework. Three methods of data analysis are employed in this study, namely:

### a. Pretest-Posttest Analysis

The pretest is employed to assess students' comprehension of the information covered, while the posttest is administered after the presentation of the learning material [17]. The purpose of this assessment is to gauge the degree to which students comprehend the subject matter and its key points. Both these evaluations are integral aspects of educational assessment. Educational evaluation is the action or process of giving grades to determine effectiveness and learning outcomes [18].

### b. Qualitative Data

Validation sheets are used to collect information related to criticism, suggestions, comments and changes to the product [19]. Researchers will utilize the findings of this investigation to evaluate the product's level of accuracy, efficacy, and attractiveness. This test also determines the efficiency of the media being developed. After being processed quantitatively using a Likert scale, the collected data will be processed again and analyzed by calculating the item score presentation for each question listed on the questionnaire. To determine this percentage, researchers used the following formula [20]:

$$P = \frac{X}{Xi} \times 100\%$$

Information:

P : Present feasibility

X : Total score of validator answers

Xi : The highest number of answer scores

**Table 1. Likert Scale**

| Percentage   | Criteria      |
|--------------|---------------|
| 0% - 19,99%  | very unworthy |
| 20% - 39%    | not worthy    |
| 40% - 59,99% | enough        |
| 60% - 79,99% | worthy        |
| 80% - 100%   | very worthy   |

c. Descriptive Statistical Analysis

Descriptive statistics are typically employed to provide an overview of the subject under investigation using sample and population data, without making extensive generalizations [16]. Data processed with descriptive statistics is often presented through tables, line or bar graphs, pie charts, and explanations of various parameters such as mode, mean, median, and group variation. Commonly utilized descriptive analyses include mean (the observed average value), maximum (the highest observed data value), and minimum (the lowest observed data value) [21].

d. Normality test

The collected pretest-posttest results undergo analysis for normality to ascertain whether the data follows a normal distribution. If the data exhibits normality, parametric statistics are utilized; in the case of non-normal distribution, non-parametric statistics are employed [22]. The normal distribution of the research data is evaluated utilizing both the Shapiro-Wilk tests and Kolmogorov-Smirnov. If the asymp.sig value exceeds 0.05, the data is considered to be normally distributed; otherwise, it is deemed not to follow a normal distribution [23]. In cases of normal distribution, it is suitable to employ parametric statistics such as the simple paired t-test and independent samples t-test. Conversely, if the data doesn't show a normal distribution, non-parametric statistical methods such as the Mann-Whitney U-test and Wilcoxon Signed-Rank Test should be applied [24].

e. Simple Paired T-test and Independent Sample T-test

These two tests are a type of parametric data analysis and are one of the testing methods commonly used to analyze the effectiveness of treatment, where this is characterized by differences in average posttest scores after treatment [16]. The difference between the two tests lies in their use. The Simple Paired T-test is employed for related samples, where observations are paired or matched, while the Independent Sample t-test is applied to unrelated samples, where observations in one group are independent of the observations in the other group.

f. Wilcoxon Test and Mann Whitney U Test

Both the Wilcoxon test and the Mann-Whitney U test are statistical methods that do not depend on parametric assumptions. The Wilcoxon test assesses the comparative hypothesis between two samples with ordinal data. Contrarily, the Mann-Whitney U Test examines the null hypothesis for two independent samples when their data deviates from a normal distribution [16].

### 3. RESULTS AND DISCUSSION

#### 3.1 Potential and Problems

The potential and problems in the research include: the implementation of developments in science and technology cannot be maximized in learning, the funeral prayer material is complex, and unstructured interviews with several PAI teachers show that students need innovative media to attract students' attention.

#### 3.2 Data Collection

In response to various challenges, the researcher created an animated video focusing on funeral prayer content to facilitate better comprehension for students. The benefits of utilizing animation as an educational medium encompass [25]: 1) Able to convey complex concepts visually and dynamically; 2) Able to capture students' attention easily; 3) Used to facilitate virtual learning; 4) Learning becomes more fun, increases motivation and stimulates students' thinking to make it more impressive; 5) Makes it easier to apply concepts or demonstrations. The Canva, Cap Cut, and Animaker applications used to create animated videos are some of the tools used in creating this material. Some of these applications are applications that are popular among Indonesian people and tend to be easy to use. Apart from that, there are many features available in this application, so it will give you many choices when making animated videos. Previously, researchers had used several applications such as Kine Master, Adobe Premiere, and several other supporting applications to develop animated videos, but their use was still too complicated.

#### 3.3 Product Design

##### 3.3.1 Planning the Presentation of Material

The material developed is based on KD, success indicators and also several other references. However, researchers will only develop animation media for funeral prayer material.

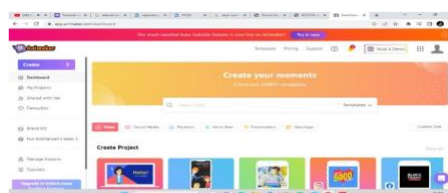
**Table 2. KD and KI**

|     | <i>Kompetensi Dasar</i>                                                                           |       | <i>Kompetensi Inti</i>                                                                        |
|-----|---------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------|
| 1.7 | Implementing funeral arrangements in accordance with the provisions of Islamic law                | 1.7.1 | Carry out funeral arrangements in accordance with the provisions of Islamic law               |
| 2.7 | Demonstrate an attitude of responsibility and cooperation in the care of corpses in the community | 2.7.1 | Display an attitude of responsibility and cooperation in the care of corpses in the community |
| 3.7 | Analyzing the implementation of funeral arrangements                                              | 3.7.1 | Examining the management of corpses in accordance with Islamic teachings                      |
|     |                                                                                                   | 3.7.2 | Summarizing the wisdom and benefits of procedures for storing corpses                         |
| 4.7 | Present procedures for handling corpses                                                           | 4.7.1 | Show the reasons and provisions for the procedures for holding the body                       |
|     |                                                                                                   | 4.7.2 | Practicing procedures for arranging the body                                                  |

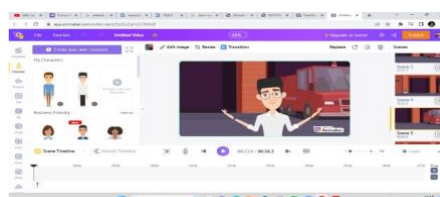
### 3.3.2 Preparation of Media Design

There are several steps in preparing animated media designs, namely:

#### a. Create a Starter Video Using Animaker



**Figure 3.1 Initial appearance of Animaker**



**Figure 3.2 Process of Making an Opening Video with Animaker**

#### b. Making animated videos of funeral prayers in this development using the Canva application.



**Figure 3.3 Initial appearance of the Canva application**

This animated learning video is designed in such a way that it can display writing, color images, sound and animation in one unit so that this video can be an interesting learning medium. At this phase, the video preparation process is iteratively conducted in alignment with the content to be presented. Combine opening videos with animated videos. The final step in preparing this media is to combine the opening video with an animated video of the funeral prayer material using the Capcut application. This application is very popular among Indonesian people and is easy to use too.



**Figure 3.4 Animation Video Combination Process**

### 3.4 Design Validation

#### 3.4.1 Material Expert Validation

The validation process for material experts in developing funeral prayer-centered animation media using Problem-Based Learning included the participation of four teachers specializing in Islamic Religious Education. This validation is based on several assessment criteria, namely the suitability of the material content with SK, KI, KD, indicators and learning objectives; is the material presented easy to understand; how true the material is; correctness and clarity of the material; how does this media apply to children.

**Table 3. Material Expert Validation**

| Assessment Criteria                                                                                  | Point |     |     |     |
|------------------------------------------------------------------------------------------------------|-------|-----|-----|-----|
|                                                                                                      | V1    | V2  | V3  | V4  |
| How does the content of the material match the SK, KI, KD, Indicators and Learning Objectives?       | 5     | 4   | 4   | 5   |
| How is the material presented easy to understand?                                                    | 5     | 4   | 5   | 4   |
| How true is the content of the material in the media?                                                | 5     | 5   | 4   | 5   |
| How is the presentation of material in learning media clear and appropriate?                         | 5     | 5   | 5   | 5   |
| How does collaboration between animation materials and media work with children's level of thinking? | 5     | 5   | 5   | 5   |
| Average                                                                                              | 5     | 4,6 | 4,6 | 4,6 |
| Percent (%)                                                                                          | 100   | 92  | 92  | 92  |
| Average (%)                                                                                          | 94%   |     |     |     |

Information: Number : Number of opinions of each validator  
Maximum score : The maximum number of Linkert scores is 5.  
Percent : (Total/Maximum Score) 100  
Average : Percent/4

The average score of the three validators is 94%.

**Table 4. Likert Scale for Material Expert Test**

| Percentage   | Criteria      |
|--------------|---------------|
| 0% - 19,99%  | very unworthy |
| 20% - 39%    | not worthy    |
| 40% - 59,99% | enough        |
| 60% - 79,99% | worthy        |
| 80% - 100%   | very worthy   |

Drawing from the expert test results table and the Likert scale table presented previously, it can be deduced that the average scores for the test presentations reached 94%. This suggests a high level of suitability for the utilized media.

#### 3.4.2 Validate media design

Validation of media experts for funeral prayer animation with Problem Based Learning consisting of 3 media expert lecturers.

**Table 5. Media Expert Validation**

| Assessment Criteria                                                                    | Point |     |     |
|----------------------------------------------------------------------------------------|-------|-----|-----|
|                                                                                        | V1    | V2  | V3  |
| The presence of coloring in writing makes it easier for users to remember the material | 5     | 5   | 4   |
| Animated videos use good and correct Indonesian                                        | 5     | 5   | 5   |
| The use of fonts (type and size of letters) is appropriate and easy to read            | 4     | 4   | 5   |
| Average                                                                                | 4,7   | 4,7 | 4,7 |
| Percent (%)                                                                            | 94    | 94  | 94  |
| Average (%)                                                                            | 94%   |     |     |

Drawing conclusions from the expert test table and the earlier provided Likert scale table, it can be inferred that the average test presentation result is 94%, signifying a high level of feasibility for the employed media.

### 3.4.3 Efficiency Test

This questionnaire is used to find out your opinion as an Islamic Religious Education teacher regarding the practicality of animation-based learning media using Problem Based Learning on funeral prayer material.

**Table 6. Efficiency Test Results**

| Assessment Criteria                                                                 | Point |     |     |     |
|-------------------------------------------------------------------------------------|-------|-----|-----|-----|
|                                                                                     | V1    | V2  | V3  | V4  |
| The animated media for funeral prayer material is easy to use                       | 5     | 4   | 4   | 5   |
| Funeral prayer animation media is easy to carry                                     | 5     | 5   | 4   | 4   |
| Funeral prayer animation media can be run on various existing hardware and software | 4     | 4   | 5   | 5   |
| Average                                                                             | 4,6   | 4,6 | 4,3 | 4,6 |
| Percent (%)                                                                         | 92    | 92  | 86  | 92  |
| Average (%)                                                                         | 91%   |     |     |     |

**Table 7. Likert Scale for Media Efficiency Test**

| Percentage   | Criteria         |
|--------------|------------------|
| 0% - 19,99%  | very inefficient |
| 20% - 39%    | less efficient   |
| 40% - 59,99% | enough           |
| 60% - 79,99% | efficient        |
| 80% - 100%   | very efficient   |

Analyzing the expert test results table and the Likert scale table above, one can conclude that the average test presentation scores are 94%, suggesting that the media used is highly efficient.

### 3.5 Design improvements

The design itself underwent several adjustments, starting from the use of color theory, choosing a video concept that suited the material, and improving the design of the content of the material to create the media that it is today. Apart from that, there have also been changes in the use of tools and materials in making this animated video. In essence, researchers work to produce teaching materials that are interesting and simple for students. The following are suggestions and input from validators:

**Table 8. Table of Criticism and Suggestions from Validators**

| No | Validator | Suggestions and Input                                                                                                                                                                                                                                                    |
|----|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | V1        | The presented material is deemed excellent and easily comprehensible for the viewers. As a suggestion, it could be beneficial to include, at the conclusion of the funeral prayer segment, additional content such as greetings followed by post-implementation prayers. |
| 2  | V2        | already appropriate                                                                                                                                                                                                                                                      |
| 3  | V3        | The material is quite interesting with practices that are easy for children to understand                                                                                                                                                                                |
| 4  | V4        | The video is quite good and clear, the presentation of the video is also clear, the animation displayed is in accordance with the material.                                                                                                                              |



**Figure 5 Design Improvements**

The image above is a design improvement in the section adding prayers for funeral prayers, both male and female corpses.

### 3.6 Product trial

At this stage the media's effectiveness is tested using pretest and posttest scores so that later the data will be analyzed. The following are the steps in data analysis:

#### 3.6.1 Normality test

##### 3.6.1.1 Normality test in treatment classes

**Table 9. Treatment Class Normality Test Results**

| Class           | Kolmogorov-Smirnov |    |         | Shapiro-Wilk |    |         |
|-----------------|--------------------|----|---------|--------------|----|---------|
|                 | Statistic          | df | sig.    | Statistic    | df | sig.    |
| Pretest Treat.  | 0.269              | 30 | < 0.001 | 0.801        | 30 | < 0.001 |
| Posttest Treat. | 0.322              | 30 | < 0.001 | 0.757        | 30 | < 0.001 |

Examining the given table, it is evident that the significant values derived from both the Kolmogorov-Smirnov and Shapiro-Wilk tests are less than 0.001. Since the significance value is below 0.05, it suggests that the data deviates from a normal distribution.

##### 3.6.1.2 Normality test in control class A

**Table 10. Normality Test for Control Class A**

| Class           | Kolmogorov-Smirnov |    |       | Shapiro-Wilk |    |       |
|-----------------|--------------------|----|-------|--------------|----|-------|
|                 | Statistic          | df | sig.  | Statistic    | df | sig.  |
| Pretest Treat.  | 0.187              | 24 | 0.030 | 0.907        | 24 | 0.030 |
| Posttest Treat. | 0.207              | 24 | 0.009 | 0.907        | 24 | 0.030 |

After reviewing the table, it is noted that the significance values for the Kolmogorov-Smirnov and Shapiro-Wilk tests for the pretest are both 0.030. Likewise, for the posttest, they are 0.009 and 0.030. Since these values are below 0.05, it can be concluded that the data does not conform to a normal distribution.

##### 3.6.1.3 Normality test in control class B

**Table 11. Normality in Control Class B**

| Class           | Kolmogorof-Smirnov |    |       | Shapiro-Wilk |    |       |
|-----------------|--------------------|----|-------|--------------|----|-------|
|                 | Statistik          | df | sig.  | Statistik    | df | sig.  |
| Pretest Treat.  | 0.170              | 24 | 0.071 | 0.917        | 24 | 0.050 |
| Posttest Treat. | 0.209              | 24 | 0.008 | 0.837        | 24 | 0.006 |

Examining the given table, the significant values for the Kolmogorov-Smirnov and Shapiro-Wilk tests in the pretest are 0.071 and 0.050, respectively. In the posttest, the values are 0.008 and 0.006. Given that these significance values are below 0.05, it implies that the data is not distributed normally.

#### 3.6.2 Homogeneity test

During the evaluation of various data variants for homogeneity or heterogeneity, a homogeneity test is conducted. If the significance value obtained from the mean surpasses 0.05, the data is considered homogeneous. On the flip side, if the significance value is less than 0.05, the data is considered heterogeneous or unequal.

**Table 12. Homogeneity Test Results**

|                                             | <i>Levene Statistic</i> | df1 | df2 | sig.  |
|---------------------------------------------|-------------------------|-----|-----|-------|
| <i>Based on Mean</i>                        | 2.267                   | 2   | 71  | 0.111 |
| <i>Based on Median</i>                      | 0.899                   | 2   | 71  | 0.412 |
| <i>Based on Median and with adjusted df</i> | 0.889                   | 2   | 71  | 0.412 |
| <i>Based on trimmed mean</i>                | 1.976                   | 2   | 71  | 0.146 |

Based on the calculations in SPSS, the significance value (sig) derived from the mean is 0.111, which is greater than 0.05. Therefore, it can be inferred that the data is homogeneous or similar. Furthermore, it's crucial to acknowledge that homogeneous data frequently results in more accurate and precise calculation outcomes.

#### 3.6.3 Wilcoxon test

Due to the non-normal distribution of the research data, the Wilcoxon test is utilized to evaluate the difference in the means of two paired samples (Puspita et al., 2022, p. 7). The decision criteria for the test are as follows: if the asymptotic significance (2-tailed) is below 0.05, then the alternative hypothesis ( $H_a$ ) is embraced,

indicating an effect of the treatment. Conversely, if the asymp sig.(2-tailed) is greater than 0.05, the alternative hypothesis (Ha) is rejected.

### 3.6.3.1 Wilcoxon test results for treatment class (experiment)

#### 3.6.3.1.1 Wilcoxon output ranks test results

**Table 13. Results of the Wilcoxon Output Ranks Test for Treatment Class**

|                | N               | Mean of Ranks | Sum of Ranks |
|----------------|-----------------|---------------|--------------|
| Negative Ranks | 0 <sup>a</sup>  | .00           | .00          |
| Positive Ranks | 29 <sup>b</sup> | 15.00         | 435.00       |
| Ties           | 1 <sup>c</sup>  |               |              |
| Total          | 30              |               |              |

From the table of ranking output results, it can be concluded that:

- The presence of negative ranks or a negative difference in results between the pretest and posttest, both with a value of 0 for N, mean rank, or sum of ranks, indicates that there is no decrease in scores between the two assessments. In other words, the use of animated videos did not lead to a decline in performance from the pretest to the posttest.
- The utilization of animated videos for both the pretest and posttest resulted in a positive difference (Positive Ranks). The output table shows 29 positive data points (N), suggesting that 29 students demonstrated an improvement in their scores from the pretest to the posttest. Within the treatment class, the average increase or mean is 15, with a total of 435 positive ranks. This indicates an overall positive impact on student performance after the incorporation of animated videos.
- Ties occur when there are identical scores between the pretest-posttest. Within the treatment class, there is a single student who achieved identical scores in both tests.

#### 3.6.3.1.2 Wilcoxon test results statistical test output

**Table 14. Output Results of the Wilcoxon Statistical Test for Treatment Class**

|                        | Pretest and Posttest Treatment Class |
|------------------------|--------------------------------------|
| Z                      | -4.769                               |
| Asymp. Sig. (2) tailed | < 0.001                              |

Since the asymptotic significance value (Sig.) is below 0.05, it can be inferred that there is a noteworthy impact arising from the utilization of animation media in instructing Islamic Education (PAI) and Moral Ethics, particularly concerning the content related to funeral prayer.

### 3.6.3.2 Wilcoxon test results for control class A

#### 3.6.3.2.1 Wilcoxon output ranks test results

**Table 15. Results of the Wilcoxon Output Ranks Test for Control Class A**

|                | N               | Mean of Ranks | Sum of Ranks |
|----------------|-----------------|---------------|--------------|
| Negative Ranks | 0 <sup>a</sup>  | .00           | .00          |
| Positive Ranks | 23 <sup>b</sup> | 12.00         | 276.00       |
| Ties           | 1 <sup>c</sup>  |               |              |
| Amount         | 24              |               |              |

From the table of ranking output results, it can be concluded that:

- The presence of negative ranks or a negative difference between the results of using animated videos for the pretest and posttest, with values of 0 in N, mean rank, or sum of ranks, indicates that there is no decrease in scores between the two assessments. This suggests that, on average, there was no decline in performance from the pretest to the posttest when utilizing animated videos.
- From the information provided, it is evident that there is a positive difference (positive ranks) in the results from using animated videos for the pretest and posttest. Specifically, there are 23 positive data points (N), signifying those 23 students observed an enhancement in their scores from the pretest to the posttest. In the treatment class, the average increase or mean increase is 12, and the total number of positive ranks is 276. These figures highlight a positive trend in student performance after the implementation of the treatment, showcasing an overall improvement. This suggests an improvement in scores after the intervention with animated videos.
- Ties are the same pretest and post-test scores, whereas in control class A there is one student who has the same score.

### 3.6.3.2.2 Wilcoxon Test Results Statistical Test Output

**Table 16. Wilcoxon Test Results Statistical Test Output Control Class A**

|                        | Pretest and Posttest Treatment Class |
|------------------------|--------------------------------------|
| Z                      | -4.220                               |
| Asymp. Sig. (2) tailed | < 0.001                              |

With the Asymp value. Sig < 0.05, the conclusion can be drawn that there is a statistically significant influence resulting from the utilization of animation media in learning Islamic Education (PAI) and Moral Character, especially in the context of funeral prayer material. Indeed, a significance level lower than 0.05 suggests that the observed effects are improbable to be due to chance and, thus, are considered meaningful.

### 3.6.3.3 Wilcoxon test results for control class B

#### 3.6.3.3.1 Wilcoxon output ranks test results

**Table 17. Results of the Wilcoxon Output Ranks Test for Control Class B**

|                | N               | Mean of Ranks | Sum of Ranks |
|----------------|-----------------|---------------|--------------|
| Negative Ranks | 0 <sup>a</sup>  | .00           | .00          |
| Positive Ranks | 24 <sup>b</sup> | 12.50         | 300.00       |
| Ties           | 0 <sup>c</sup>  |               |              |
| Total          | 24              |               |              |

From the table of ranking output results, it can be concluded that:

- The existence of negative ranks or a negative difference between the results of using animated videos for the pretest and posttest, with values of 0 in N, mean rank or sum of ranks, implies that there is no decrease in scores between the two assessments. This indicates that, on average, there was no decline in performance from the pretest to the posttest when utilizing animated videos. The scores either remained the same or increased.
- Positive difference (Positive Ranks) results from using animated videos for pretest and posttest. In the output table above, all students have improved. The mean or average increase and number of positive rankings in the treatment class is 12.50 and 300, respectively.
- Ties, namely the similarity of pretest-posttest scores, in control class B there were no students who had the same scores.

### 3.6.3.3.2 Wilcoxon Test Results Statistical Test Output

**Table 18. Wilcoxon Test Results Statistical Test Output Control Class B**

|                        | Pretest and Posttest Treatment Class |
|------------------------|--------------------------------------|
| Z                      | -4.305                               |
| Asymp. Sig. (2) tailed | < 0.001                              |

With the asymptotic significance value (Asymp. Sig) in the provided table being less than 0.05, the conclusion can be drawn that there is a statistically significant impact resulting from the use of animation media in learning Islamic Education (PAI) and Character Learning, especially in the context of funeral prayer material. Indeed, a significance level lower than 0.05 suggests that the observed effects are improbable to be due to chance and are thus considered meaningful.

### 3.6.4 Mann Whitney U -Test

The Mann-Whitney U-Test is utilized to assess whether a significant difference is present in the means of two unpaired samples. This non-parametric statistical test acts as a substitute for the independent sample t-test, especially when parametric test assumptions are not satisfied or when the data does not follow a normal distribution. The objective of the test is to establish whether there is a noteworthy distinction between the distributions of the two groups under comparison.

**Table 19. Mann Whitney U-Test for Treatment and Control Class A**

| Statistic Test         |         |
|------------------------|---------|
|                        | Results |
| Mann                   | 5       |
| Wilcoxon               | 35      |
| Z                      | -4,89   |
| Asymp. Sig. (2-tailed) | <0,00   |

**Table 20. Results of the Mann Whitney U-Test for Treatment and Control Class B**

| Statistic Test         |         |
|------------------------|---------|
|                        | Results |
| Mann Whitney           | 44      |
| Wilcoxon               | 344     |
| Z                      | -5,054  |
| Asymp. Sig. (2-tailed) | <0.001  |

Asimp. Sig. (2-tailed) between SMP N 1 Moga v SMP N 2 Pulosari (A) and SMP N 1 Moga v SMP N 2 Pulosari (B) is less than 0.05, as can be seen from both tables. This shows that the PBL approach and the use of animation media for funeral prayer material are significantly different.

### 3.6.5 N-Gain Test

The purpose of the N-Gain test is to provide a comprehensive assessment of the enhancement in learning outcomes between the period before and after the implementation of a treatment. This test provides a general assessment of the increase in learning effectiveness resulting from the applied intervention [26]. The effectiveness of the media or treatment applied in each class can be assessed by computing the average of the N Gain test.

**Table 21. N-Gain Test Results Pretest and Posttest Values**

| No      | Control A | Control B | Treatment |
|---------|-----------|-----------|-----------|
| 1       | 0,5       | 0,5       | 0,9       |
| 2       | 0,6       | 0,6       | 0,5       |
| 3       | 1         | 0,3       | 1,0       |
| 4       | 0,8       | 0,3       | 1,0       |
| 5       | 1         | 0,8       | 1,0       |
| 6       | 0,4       | 1         | 0,5       |
| 7       | 0         | 0,8       | 0,9       |
| 8       | 0,5       | 0,7       | 0,9       |
| 9       | 0,4       | 0,6       | 0,8       |
| 10      | 0,9       | 0,7       | 0,9       |
| 11      | 0,9       | 0,8       | 0,5       |
| 12      | 0,4       | 0,7       | 0,5       |
| 13      | 0,6       | 0,9       | 0,0       |
| 14      | 0,2       | 0,8       | 0,8       |
| 15      | 0,7       | 0,3       | 0,5       |
| 16      | 1         | 0,8       | 0,9       |
| 17      | 0,7       | 0,8       | 0,5       |
| 18      | 0,7       | 0,3       | 0,7       |
| 19      | 0,7       | 0,4       | 1,0       |
| 20      | 0,6       | 0,8       | 0,7       |
| 21      | 0,8       | 0,7       | 0,6       |
| 22      | 0,7       | 0,4       | 0,5       |
| 23      | 0,8       | 0,5       | 0,5       |
| 24      | 0,9       | 0,5       | 1,0       |
| 25      |           |           | 1,0       |
| 26      |           |           | 1,0       |
| 27      |           |           | 1,0       |
| 28      |           |           | 1,0       |
| 29      |           |           | 1,0       |
| 30      |           |           | 1,0       |
| Average | 0,7       | 0,6       | 0,8       |

Table 22. N-Gain Test Results

| Class     | N  | Min | Max | Mean |
|-----------|----|-----|-----|------|
| Control A | 24 | 0   | 1   | 0,7  |
| Control B | 24 | 0,3 | 1   | 0,6  |
| Treatment | 30 | 0   | 1   | 0,8  |

Table 23. N-Gain Test Criteria

| N-Gain Value       | Interpretation |
|--------------------|----------------|
| $g > 0,7$          | High           |
| $0,3 < g \leq 0,7$ | Medium         |
| $g < 0,3$          | Low            |

Based on the N-Gain test results and its criteria, the averages in the control class were 0.7 and 0.6, both falling within the medium category. In the treatment class, the average value is 0.8, positioning it in the high category. Consequently, it can be concluded that there is an influence between the pre-treatment and post-treatment stages.

### 3.7 Product Revisions

According to the student response questionnaire, it is evident that the animated video on funeral prayers is perceived as quite interesting by the students. The feedback from the questionnaire reveals a satisfaction rate of 91%, implying that this media significantly contributes to students' teaching and learning process. The positive response underscores the effectiveness and appeal of the animated video as an instructional tool for enhancing understanding and engagement.

## 4. CONCLUSION

From the research data and the analysis conducted, it can be concluded that the evaluation of the necessity for animation media in Islamic Education (PAI) and Ethics Education (BP) learning indicates a lack of enthusiasm among students throughout the learning process. The findings suggest that there might be a perceived gap or deficiency in the current instructional methods, and the incorporation of animation media could be beneficial in addressing this issue and enhancing student engagement. Apart from that, the media that are often used in learning are printed books, whiteboards, and PPT. Apart from that, the large amount of administration that must be completed by teachers means that the time spent preparing learning media is limited. In the material expert test, which involved four teachers specializing in PAI and BP, the outcomes of the test percentation revealed an average score of 94%, classifying the media used as highly suitable. The media expert test on three media expert lecturers showed that the eligibility level reached 94%. Meanwhile, the efficiency level of animated video-based media using the Problem Based Learning method for funeral prayer material is at 91% so it is in the very efficient category.

The examination of the influence of animation media in Islamic Education (PAI) learning involved the application of both the Wilcoxon Sign Ranks Test and the Mann-Whitney Test. The results of both tests indicate that the significance value is less than 0.05, signifying that the used animation media has a significant impact on learning PAI and Moral and Ethics Education (BP) material for funeral prayers. Furthermore, the media effectiveness test, as determined through N-Gain tests in the control class, resulted in averages of 0.7 and 0.6, categorizing both outcomes in the medium range. This suggests a moderate level of effectiveness for the animation media in enhancing learning outcomes in PAI and BP material for funeral prayers. For the treatment class the average value is 0.8 so it is in the high category. Therefore, it can be concluded that there is an impact between the periods before and after the treatment.

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