Investigating Islamic Religious Education Teacher Beliefs Toward Multimedia Learning

Muslimah
Institut Agama Islam Negeri Palangka Raya, Indonesia
muslimah.abdulazis@iain-palangkaraya.ac.id

Abstract

Teachers' beliefs regarding multimedia learning are essential. This study aims to explore teachers' beliefs about multimedia learning in Islamic Religious Education (PAI) at Senior High School in Palangka Raya, Central Kalimantan, Indonesia. This research employed the mix-method QUAN-QUAL, the exploratory sequential design. Nine teachers were involved based on a purposive sampling technique. Twenty-three questionnaire items were constructed to collect the quantitative data. An interview guide was used to collect the qualitative data. The quantitative data was collected through a cross-sectional survey, and the qualitative data was collected through a semi-structured interview. The SPSS version 26 was utilized to analyze the quantitative. Moreover, thematic or coding analysis was used to analyze qualitative data. Multimedia learning was shown to have excellent potential to improve students' learning experiences. With proper implementation and adequate support, multimedia learning could effectively improve the quality of Islamic Religious Education. However, some challenges must be faced to achieve optimal learning outcomes.

Keywords: Multimedia, Learning, Teacher Beliefs

A.   Introduction

Teachers' beliefs regarding multimedia learning can influence how they deliver material to achieve learning goals. In Islamic education, multimedia learning includes using various digital media to enrich the learning process. This media provides

technology such as video, audio, images, and interactive text to help students understand new concepts. In the last decade, much research has been related to multimedia learning in the Islamic education field. PowerPoint slides, video clips, mind maps, and the internet are multimedia tools that help improve the learning process of teaching Islamic studies (Wan Noor Hazlina Wan Jusoh & Kamaruzaman Jusoff, 2009, p. 89). Moreover, multimedia learning increases learning effectiveness and creates a pleasant learning atmosphere. The spiritual and emotional intelligence-based multimedia can improve student character (Sultoni, 2021, p. 6). In learning Islamic Religious Education, there is a relationship between multimedia learning and students' interest (Alim & Rosyadi, n.d., p. 100). Through qualitative studies, it was found that multimedia learning increases engagement, motivation, and understanding among students while enabling interactive and personalized learning experiences in Islamic Religious Education (Hamdanah et al., 2024, p. 4; Suraijiah et al., 2023, p. 340).

Multimedia learning allows learning to be more interactive (Ramadhani & Muhtadi, 2018, p. 10). In recent years, researchers have researched integrative multimedia in Islamic Religious Education at various levels of education throughout Indonesia. Research development in interactive multimedia products, such as Compact Disk (CD), aims to meet the learning needs of Islamic economics principles and practices for high school students (Ramadhani & Muhtadi, 2018, p. 10). Through the ADDIE Model design, PowerPoint macro-based interactive multimedia was created to improve learning outcomes for the history of Islamic culture (Khasanah et al., 2023, p. 45). Furthermore, interactive multimedia has proven effective in improving student engagement and learning outcomes in Islamic Religious Education subjects (Fedi, 2023, p. 317; Handayani et al., 2022, p. 38). Android-based interactive multimedia creates a fun learning atmosphere and is very effective in improving students' understanding and learning outcomes (Iskandar et al., 2023, p. 4582). The development of interactive multimedia aims to improve students' interest and their learning outcomes in Islamic Religious Education (Rohmah & Tegeh, 2022, p. 220). The use of interactive multimedia increases students' understanding of the material on religious tolerance for MAN 1 Bone students (Karim et al., 2023, p. 338).

Additionally, multimedia learning in teaching Islamic Religious Education has many positive impacts on interest, motivation, understanding, and student engagement in the teaching and learning process. Multimedia learning not only attracts attention and creates creativity but also improves Islamic Religious Education learning

achievement (Fedi, 2023, p. 317). The implementation of multimedia-based instruction in the teaching of Islamic Religious Education helps Mudarris in Islamic boarding schools (Wahidin et al., 2021, p. 24). Multimedia also facilitates students in learning Islamic Religious Education at SMA Islam Nusantara Malang (Maulana et al., 2022, p. 136). The use of digital multimedia in the teaching of Islamic Religious Education attracts the interest of students at the iHAQi Islamic Boarding School in Bandung (Sahri et al., 2012, p. 50). In addition, there is a significant influence of multimedia learning on students' religious character in Islamic Religious Education subject (Tabroni & Romdhon, 2022, p. 792). The use of multimedia not only makes it easier for teachers to convey material but also fosters students' interest and motivation to learn.

Research on multimedia development in Islamic Religious Education has attracted researchers' interest. Using various features such as text, sound, images, video, and animation in multimedia development in Islamic Religious Education makes learning more exciting and compelling (Sibuea et al., 2024, p. 2927). The development of interactive multimedia source material on Islamic law is feasible for use in SMA Antartika Sidoarjo. The development of interactive multimedia learning PAI with Android-based Al-Qur'an aims to increase elementary school students' understanding (Daryanto et al., 2023, p. 655). The development of interactive multimedia is effective in improving student learning outcomes at SDN Samirono, Sleman, Yogyakarta (Zinnurain & Gafur, 2015, p. 167). The multimedia development of Islamic Religious Education must support its effectiveness and create a pleasant learning atmosphere (Soleh et al., 2015, p. 577). The use of multimedia not only makes it easier for teachers to deliver material but also fosters students' interest and motivation to learn about Islamic Religious Education subjects in vocational schools (Setiawan et al., 2017, p. 7).

To the authors' knowledge, little attention has been paid to teachers' beliefs, which means that teachers' beliefs have yet to be included as a variable in any multimedia studies on Islamic Religious Education. A strong belief in multimedia learning can encourage teachers to innovate in applying technology to deliver learning materials. A reasonable belief in multimedia learning can create an exciting and interactive learning atmosphere. Thus, teachers' belief in multimedia learning not only improves the quality of teaching but also encourages the creation of a more dynamic learning environment that is responsive to the needs of students. Understanding teacher beliefs helps design training programs to increase the use of multimedia learning in the context

of Islamic Religious Education. Therefore, research on teachers' beliefs in multimedia learning is essential for understanding classroom dynamics and improving overall learning effectiveness.

For that reason, research regarding teachers' beliefs in multimedia learning is fundamental, as it can provide empirical evidence and insight into how this influences their teaching practices. In addition, this research aims to investigate teacher beliefs towards multimedia learning in Islamic Religious Education that might affect teachers' performance in the educational process. The research question driving this study is "what are teacher beliefs towards multimedia learning in Islamic Religious Education?"

Teacher Beliefs

Teacher belief has been a startling problem for several years. A teacher's belief appears to be something that they believe to be true (Wafa, 2016, p. 321). Theories on beliefs often explore how they are formed, reinforced, and changed through cognitive processes, social interactions, and emotional experiences. According to Wubbena and Guerra (2017), cognitive dissonance theory, social cognitive theory, and attribution theory are some frameworks used to understand the dynamics of beliefs. Beliefs are cognitive attitudes that represent an individual's conviction about the truth or existence of something (Ertmer et al., 2012, p. 423; Kim et al., 2013, p. 76). Beliefs rooted in personal experiences, cultural influences, and social context shape perceptions and guide behavior (Latif & Wasim, 2022, p. 3). Therefore, the practice of the theory of beliefs involves examining how teachers manifest their beliefs through actions, rituals, and behavior in daily life. It also explores integrating their convictions into practical aspects of their teaching practice.

Cognitive Theory of Multimedia Learning

The cognitive theory of multimedia learning proposed by Dr Richard E Mayer teaches us how we learn. Learning is active when people pay attention to relevant information, organize it into a coherent structure, and integrate it with what they already know. Mayer, (1997) mention that each individual has two channels for processing information, one for processing visual material and another for processing auditory material. Multimedia learning uses cognitive aspects that combine words and pictures to maximize learning effectiveness (Mayer, 2014a). Technically in the cognitive theory of multimedia learning, it is explained that input can be in the form of spoken or

written language, and images can be in the form of graphs, photographs, illustrations, photos, or videos. Furthermore, each person has limited capacity, so they can only process some information on each channel; therefore, presenting information to someone excessively will hinder the learning process(Mariano, 2014).
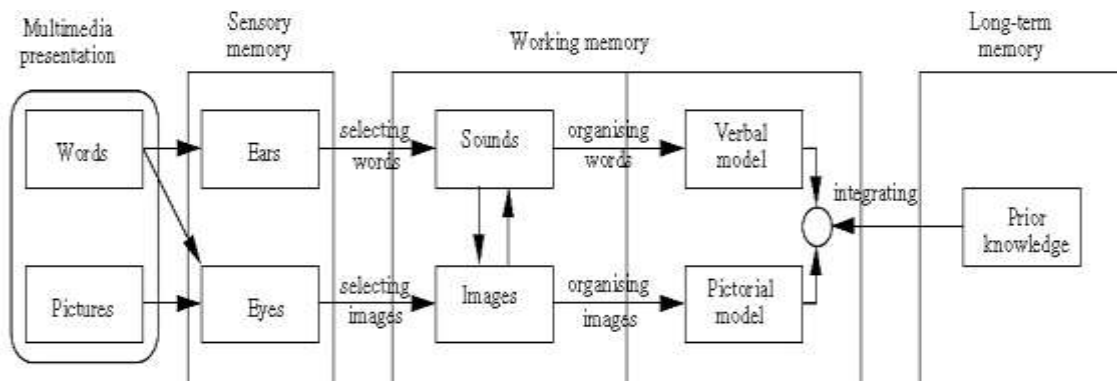

Figure 1. A Cognitive Theory of Multimedia Learning Adopted from (Mayer, 2024)

There are five types of cognitive processes depicted in the figure above. Firstly, choosing words is the process of focusing on essential details when speaking words that are processed in working memory. Secondly, selecting images is a term that focuses on significant words or pictures processed in working memory. Thirdly, mentally arranging words into a logical working memory verbal model or cognitive representation is called organizing words. Fourth, image organizing is the process of mentally rearranging images so that they can be worked by memory's coherent cognitive representations or graphical models, and the last is integrating, which involves cognitively tying verbal models and visual representations with pertinent past information retrieved from long-term memory.

Multimedia learning on Islamic Education in Indonesia

Multimedia learning significantly impacts Islamic education in Indonesia; it not only enriches learning materials but also prepares students for a global world that is increasingly integrated. Multimedia learning in Islamic Religious Education is a learning method that uses information and communication technology to increase effectiveness and efficiency in teaching and learning activities. Tanjung et al., (2023) mention that multimedia learning uses various forms of stimulus, such as video, audio, images, animation, text, graphics, and interactive which can help students more easily

summarize information and increase learning motivation. The general aim of using media is to improve effectiveness and efficiency in teaching and learning activities.
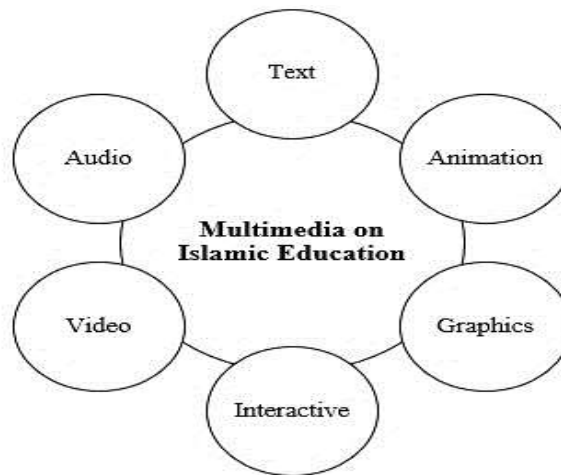

Figure 2. Multimedia on Islamic Education

Multimedia learning in Islamic Religious Education can make it easier for students to understand the given material because the information can be shown more interestingly (Isgandi, 2022). Multimedia learning can make it easier for teachers to teach the material and help students understand it (Nasution, 2023; Wajdi et al., 2021). Therefore, multimedia learning in Islamic education is crucial in enriching students' learning experience and increasing student involvement in the learning process, facilitating understanding of complex concepts, and encouraging student interaction and collaboration.

Theory of beliefs

According to Wubbena & Guerra, (2017) cognitive dissonance theory, social cognitive theory, and attribution theory are some frameworks used to understand the dynamics of beliefs. Theories on beliefs often explore how they are formed, reinforced, and changed through cognitive processes, social interactions, and emotional experiences. Beliefs are cognitive attitudes that represent an individual's conviction about the truth or existence of something(Narens, 2003). Beliefs rooted in personal experiences, cultural influences, and social context and its shape perceptions and guide behaviour(Prawat, 1992). Therefore, the practice of theory of beliefs involves examining how individuals manifest their beliefs through actions, rituals, and behaviours in daily

life, and It also explores how people integrate their convictions into practical aspects of their existence, influencing decision-making, relationships, and lifestyle choices.

B.   Method

This research uses the mix-method QUAN-QUAL, the exploratory sequential design. Creswell, J W. & Creswell, (2018, p. 337) a mixed methods research design is a procedure for collecting, analyzing, and mixing quantitative and qualitative research and methods in a single study to understand a research problem. Data is collected with one method first and then the second method next, which means that the quantitative data first follows the qualitative data. Both data sets are used equally (Schoonenboom & Johnson, 2017)**.** The quantitative data was collected through a cross-sectional survey, and the qualitative data was collected through a semi-structured interview(Braun & Clarke, 2013, p. 78). Nine Islamic religious education teachers spread across various Senior High schools in Palangka Raya were taken as samples based on a purposive sampling technique. Twenty-three questionnaire items were constructed to collect the quantitative data related to teachers' beliefs towards multimedia learning. The questionnaires were divided into several aspects, such as the advantages and importance of multimedia learning, the environment of institutions to use multimedia, the effectiveness of multimedia learning in the teaching process, operation problems, and challenges teachers face.

Conversely, an interview guide was used to collect the qualitative data. The questionnaire was created in a Google form and distributed manually, and the interview process was carried out after the teachers had filled out the questionnaire. The data collection lasted six days, from January 20th, 2024, to January 25th, 2024. The responses were graded using the Likert scale, with five points awarded for Strongly Agree (SA), four points awarded for Agree (A), three points awarded for Neutral (N), two points awarded for Disagree (D), and one point awarded for Strongly Disagree (SD). The quantitative data were examined using descriptive statistics to determine the frequency, percentage, mean, and standard deviation. SPSS version 26 was used to conduct the analysis. Moreover, thematic analysis or coding analysis was used to analyze the qualitative data(Braun & Clarke, 2013). The data is transcribed and classified according to teachers' beliefs regarding multimedia learning.

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C.   Result and Discussion

1.   The quantitative analysis

Table 1. The frequencies, percentages, mean scores and standard deviation of the teachers beliefs in multimedia learning.

No	Items		SA	A	N	D	SD	N	Mean	SD
1.	Multimedia learning makes teaching of Islamic lesson become long-lasting.	F	3	6	-	-	-	9	4.33	.5
		%	33.3	66.7	-	-	-	100		
2.	Multimedia learning provides interest in the study of the Islamic education.	F	4	4	1	-	-	9	4.33	.707
		%	44.4	44.4	11.1	-	-	100		
3.	Multimedia learning makes Islamic education easy and fast.	F	5	3	1	-	-	9	4.44	.726
		%	55.6	33.3	11.1	-	-	100		
4.	Multimedia learning helps to motivate the students.	F	3	6	-	-	-	9	4.33	.5
		%	33.3	66.7	-	-	-	100		
5.	Multimedia learning develops student initiatives.	F	4	4	1	-	-	9	4.33	.707
		%	44.4	44.4	11.1	-	-	100		
6.	Multimedia learning break the monotony of practice work by creating variety.	F	4	4	1	-	-	9	4.33	.707
		%	44.4	44.4	11.1	-	-	100		
7.	Multimedia learning is favorable to use on Islamic education.	F	2	6	1	-	-	9	4.11	.607
		%	22.2	66.7	11.1	-	-	100		
8.	Sufficient time provided for teachers to use multimedia learning.	F	2	6	1	-	-	9	4.11	.601
		%	22.2	66.7	11.1	-	-	100		
9.	Teachers are satisfied with the availability of multimedia learning.	F	5	3	1	-	-	9	4.44	.726
		%	55.6	33.3	11.1	-	-	100		
10.	Students are actively participating by using multimedia learning.	F	3	6	-	-	-	9	4.33	.5
		%	33.3	66.7	-	-	-	100		
11.	Multimedia learning supports the professional development of teachers.	F	3	6	-	-	-	9	4.33	.5
		%	33.3	66.7	-	-	-	100		
12.	Multimedia learning makes the presentation more effective.	F	5	3	1	-	-	9	4.44	.726
		%	55.6	33.3	11.1	-	-	100		
13.	Multimedia learning develops students' creativity.	F	2	7	-	-	-	9	4.22	.441
		%	22.2	77.8	-	-	-	100		
14.	Multimedia learning brings the real situation in the class.	F	1	7	1	-	-	9	4	.5
		%	11.1	77.8	11.1	-	-	100		

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No.	Statement								Mean	SD
15.	Lecturers often face technical problems in operating multimedia.	F	2	2	4	1	-	9	3.56	1.014
		%	22.2	22.2	44.4	11.1	-	100		
16.	Multimedia is challenging to operate in teaching of Islamic materials.	F	1	4	-	4	-	9	3.22	1.202
		%	11.1	44.4	-	44.4	-	100		
17.	It is not easy to manage the lessons by using multimedia learning.	F	-	3	2	4	-	9	2.89	.928
		%	-	33.3	22.2	44.4	-	100		
18.	Teachers can solve the technical problems of multimedia learning.	F	2	4	3	-	-	9	3.89	.782
		%	22.2	44.4	33.3	-	-	100		
19.	Multimedia learning is economical in terms of time.	F	1	6	2	-	-	9	3.89	.601
		%	11.1	66.7	22.2	-	-	100		
20.	Multimedia learning is the most challenging job for the teachers.	F	3	3	2	1	-	9	3.89	1.054
		%	33.3	33.3	22.2	11.1	-	100		
21.	Students find it difficult to understand lessons by using multimedia learning.	F	-	8	1	-	-	9	3.89	.333
		%	-	88.9	11.1		-	100		
22.	Multimedia learning use meets the objectives of the lesson.	F	1	7	1	-	-	9	4	.5
		%	11.1	77.8	11.1	-	-	100		
23.	Multimedia learning is expensive and can only be afforded by some institutes.	F	-	3	5	1	-	9	3.22	.667
		%	-	33.3	55.6	11.1	-	100		

The teacher's responses to questionnaires one to six regarding the advantages and importance of multimedia are dominated by statements of strongly agree and agree with a mean value of 4.44 - 4.33 and a standard deviation of .5 - 726. Thus, teachers believe multimedia learning is essential and helpful in Islamic religious education. Moreover, seven to nine questionnaires regarding the environment of institutions to use multimedia were dominated by statements of strongly agree and agree with a mean value of 4.44 - 4.11 and a standard deviation of .601 - 726. Thus, teachers believe multimedia learning is very satisfying and support them in teaching Islamic religious education. On the other hand, the responses to questionnaires ten to fourteen regarding the effectiveness of multimedia in the teaching-learning process are dominated by statements of strongly agree and agree with a mean value of .4 - 4.44 and a standard deviation of .5 - 726.

Therefore, teachers believe that the use of multimedia learning is very effective in the process of teaching Islamic religious education. On the other side, In the fifteen to eighteen questionnaires regarding operation problems faced by the teachers, there was no variation in the distribution of the mean and standard deviation for each choice of the statement, thus indicating that the teachers believed that they still encountered obstacles in using multimedia on the teaching of Islamic religious education. Furthermore, the teacher's responses to the questionnaire nineteen to twenty-three

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regarding the challenges faced by the teachers were dominated by strongly agree and agree on statements with a mean distribution of 3.22 - .4 and a standard deviation of .333 - 1.054, which indicated that the teachers believed that multimedia learning had its challenges in Islamic religious education.
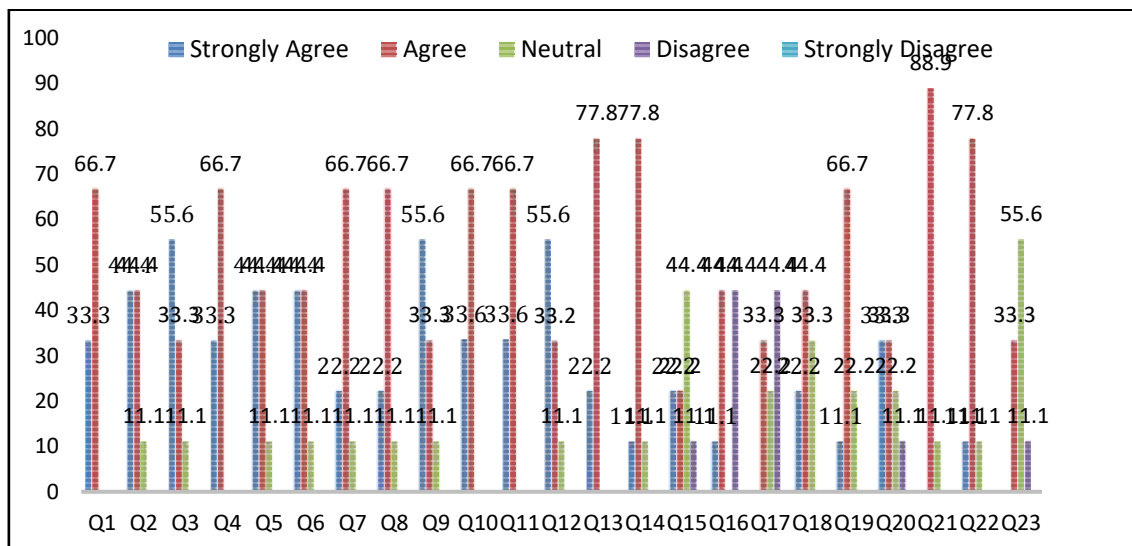

Figure 2. The percentage of the lecturers beliefs in multimedia learning.

2. The qualitative analysis

Table 2. Semi-Structured Interview of the teachers beliefs in multimedia learning.

Aspect	Interview Results
Attractive	• Audiovisual input from multimedia learning via PPT and YouTube provides positive stimulus to students. • Multimedia learning attracts students' attention, making it easier for them to understand. • Multimedia learning attracts attention and increases students' understanding of learning material. • Multimedia attracts attention so that students easily understand the lesson material.
Increase engagement	• Students are also actively involved by asking questions about the material presented in the learning process. • Multimedia learning encourages students to learn independently
Efficient tools	• Multimedia increasing the effectiveness and efficiency of learning time.

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- Multimedia learning makes it easier to deliver learning material.
- Multimedia applications provide a variety of learning materials accessed from various sources to meet students' needs in learning Islamic religious education.
- Through multimedia tools and applications, it is possible to improve learning outcomes in Islamic religious education.
- Multimedia learning facilitates students with different learning styles.

This research aims to investigate teachers beliefs towards multimedia learning in Islamic Religious Education. Teachers beliefs about multimedia learning varied. They believed that multimedia learning has various advantages and is essential in the Islamic religious education teaching process. Teachers see it as a valuable tool to enhance engagement and understanding. The use of multimedia technology in Islamic religious education improves teaching content and makes maximum use of class time. It also helps teachers to integrate teaching and learning and provides more significant input for students. Multimedia learning can increase interaction between students and teachers and make learning more enjoyable. Multimedia learning makes it easier to deliver material and creates an interactive learning atmosphere. Besides, the finding is in line with multimedia as a teaching aid can increase students' motivation, interaction, and interest in learning Islamic religious education material(Hamzah et al., 2014; Kaso & Ilham, 2020; Mohd Nawi, 2020; Wajdi et al., 2021).

Furthermore, teachers also believe that using multimedia in Islamic Religious Education increases student motivation and involvement in the learning process, because it allows students to learn at their own pace, improving understanding and retention of information. The words and visuals together have a deeper learning effect on people than words alone, and the words can be spoken or written, and the pictures can be any form of graphical imagery including illustrations, photos, animation, or video(Mayer, 2012, 2014b; Sweller, 2005). As an effective teaching method, multimedia use often involves a combination of pedagogical approaches, adapting to diverse learning styles and incorporating interactive elements to engage students. Overall, many educators recognize the potential benefits of incorporating multimedia to cater to different learning styles and make lessons more dynamic. However, it is important to note that although multimedia can be attractive, increase engagement and powerful

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tool in Islamic religious education, it is not a one-size-fits-all solution. The effectiveness of multimedia in teaching can depend on various factors, including the teaching methods and techniques used, the learning environment, and the student's specific needs and characteristics.

D. Conclusion

Based on the description above, teachers believe that multimedia learning has excellent potential to improve students' learning experiences in Islamic religious education. It can be used to enhance understanding of Islamic religious education material by presenting complex concepts interestingly and interactively. With proper implementation and adequate support, multimedia learning can effectively improve the quality of Islamic religious education. However, some challenges must be faced to achieve optimal learning outcomes.

Limitation and Future Research Directions

This research only involved several numbers of Islamic Religious Education teachers from various schools in Palangka Raya, Central Kalimantan, therefore, it is hoped that future research will involve large numbers of participants so that it can be an ideal representation of empirical findings.

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