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The Influence of Reflective Learning Model on Students' Metacognitive Awareness in Islamic Religious Education

Muhammad Nanang Qosim[a,*], Desy Misnawati[b], Elihami[c], Muhajir Musa[d], Nanda Saputra[e]

[a]*UIN Raden Mas Said Surakarta, Jl. Pandawa, Kabupaten Sukoharjo 57168, Indonesia*
[b]*Universitas Bina Darma, Jl. Jenderal Ahmad Yani No.3, 9/10 Ulu, Kota Palembang 30111, Indonesia*
[c]*Universitas Muhammadiyah Enrekang,, Jl. Jenderal Sudirman, Galonta, Kabupaten Enrekang, 91711, Indonesia*
[d]*Universitas Muhammadiyah Kupang, Jl. K. H. Ahmad Dahlan, Kota Kupang 85228, Indonesia*
[e]*Sekolah Tinggi Ilmu Tarbiyah Al-Hilal Sigli, Jl. Perniagaan No.10, Kota Sigli Aceh 24114, Indonesia*
[1]*nanang.qosim@staff.uinsaid.ac.id**
** corresponding author*

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ABSTRACT

This study aims to explore how implementing a reflective learning model affects students' metacognitive awareness in the context of Islamic Religious Education. A single-group pretest-posttest experimental design was employed, involving 62 participants divided into experimental and control groups. Data were gathered using a metacognitive awareness questionnaire comprising 20 items. The findings from the t-test analysis with a significance level of 0.001 revealed a significant disparity in metacognitive awareness between the experimental and control groups. The experimental group, which utilized the reflective learning model, exhibited a considerably more significant enhancement in metacognitive awareness compared to the control group that employed a traditional learning model. These suggest that using a reflective learning model positively influences students' metacognitive awareness in the context of Islamic Religious Education. The implications of this research emphasize the necessity of integrating reflective learning models into the teaching practices of Islamic Religious Education to promote students' metacognitive awareness.

I. Introduction

The subject of Islamic Religious Education (PAI) holds a significant role in shaping students' comprehension, values, and attitudes regarding religious aspects in their lives (Ahmad et al., 2023; Gunawan et al., 2023; Idris et al., 2022; Lundeto, 2021; Mansir & Karim, 2020). Within the realm of PAI education, continuous efforts are being made to enhance the effectiveness of the learning process, enabling students to cultivate a profound and discerning understanding of Islamic religious teachings (Akrim et al., 2022; Dehshiri, 2022; Jafralie & Zaver, 2019). Simultaneously, students' metacognitive awareness assumes a crucial role in the learning journey. Metacognitive awareness pertains to students' capacity to comprehend, regulate, and control their own cognitive processes (Çini et al., 2023; Kazemian et al., 2021; F. Teng, 2020b). Metacognitive awareness helps students become active, independent learners who are able to use powerful learning techniques in the context of PAI education.

Islamic religious education learning depends heavily on metacognitive awareness (Rokhmah, 2020; Suciati et al., 2022). It includes the capacity to consider one's own ideas, feelings, and motives as they relate to learning. Students can use this metacognitive awareness to better understand themselves within the framework of PAI learning. Students can choose their views, values, and attitudes about life and religion by reflecting on religious teachings (Janah & Hamami, 2022). The ability of students to organize their time effectively, set goals, and track their progress is also included in the category of metacognitive abilities (Anthonysamy, 2021; Mitsea & Drigas, 2019; Rivers et al., 2020; Wang et al., 2021). These metacognitive abilities may be used in PAI learning to plan study schedules, choose the best learning approaches, and evaluate how well set learning objectives are reached. Metacognitive abilities also include the capacity to assess learning progress objectively and take part in self-improvement. Students can use these metacognitive abilities in the context of PAI learning to evaluate how well they grasp religious doctrine, pinpoint areas of strength and weakness, and make the required corrections. Problem-solving within the context of

religious beliefs is a common component of PAI learning. Students that possess metacognitive abilities are better able to recognize difficulties, find pertinent information, and create solutions (Stanton et al., 2021; Villanueva, 2022). Within the realm of Islamic Religious Education (PAI) learning, students can apply these metacognitive skills to effectively address moral and social dilemmas while seeking solutions that align with the principles and teachings of Islam.

Based on the theory, it can be concluded that metacognitive awareness is closely associated with the learning of Islamic Religious Education (PAI) in educational institutions. Consequently, it is crucial for students to possess and cultivate this metacognitive awareness, particularly when studying Islamic teachings.

However, through the researchers' observations conducted in schools, several issues have been identified: (i) Students' metacognitive awareness appears to be relatively low. This is evident in their limited participation during group discussions, lack of inquiry, and insufficient response to the taught material. They demonstrate passiveness and minimal engagement in the learning process; (ii) Students seem to struggle in reflecting upon their personal understandings and experiences related to Islamic religious teachings. As a result, their comprehension of the learning material tends to remain superficial; (iii) Furthermore, they exhibit difficulty in identifying their own strengths and weaknesses in understanding the subject matter, as well as facing challenges in organizing the necessary steps to enhance their comprehension. However, recognizing one's own strengths and weaknesses is of utmost importance in attaining the established learning objectives.

The findings of this study align with the research conducted by Teng (2020), which suggests that insufficient metacognitive awareness leads to limited student engagement in the learning process. Similarly, Muijs and Bokhove (2020) demonstrate that students with low metacognitive awareness tend to provide superficial responses when asked questions by teachers or peers. Additionally, Kavousi et al. (2020) emphasized that students with low metacognitive awareness struggle to identify their strengths and weaknesses in understanding. Drawing from researchers' school observations and previous studies, it has been observed that insufficient metacognitive awareness negatively affects student engagement in the learning process and their ability to identify strengths and weaknesses in comprehension. Hence, it becomes crucial for educators to prioritize the cultivation of students' metacognitive skills in order to enhance the effectiveness of Islamic Religious Education.

The use of appropriate learning models tailored to students' characteristics and the subject matter being taught is a crucial factor in the success of Islamic Religious Education (PAI) learning. Among these models, the reflective learning model has garnered significant attention in the educational realm. The utilization of the reflective learning model, as suggested by Draissi et al. (2021), offers an active and engaging approach that promotes critical thinking, reflection, and in-depth understanding among students. In the context of Islamic Religious Education (PAI) learning, putting this model into practice may show to be a successful technique for improving metacognitive awareness. By utilizing the reflective learning model, teachers may help students assess their grasp of the material, assess their cognitive processes, and identify their areas of comprehension strength and weakness (Tachie & Kariyana, 2022). The reflective learning model supports the development of a deeper and more contextualized knowledge of Islamic religious teachings through the PAI curriculum's emphasis on critical thinking.

Active self-reflection helps students identify their areas of weakness and recognize their areas of understanding strength, laying the groundwork for the creation of effective strategies for learning (van Loon, 2019). Students also become more aware of how they take in information, understand concepts, and make connections to their own experiences by reflecting on their cognitive processes (Jiménez-Gómez et al., 2019).

The reflective learning technique is very significant in the field of Islamic Religious Education because it helps students make connections between Islamic teachings and their own personal situations. Students gain knowledge of how Islamic ideas may be used in daily life through reflective activities, assisting in problem-solving and decision-making influenced by moral concepts. This technique aids in the development of a comprehensive and contextual understanding of Islam. Therefore, using the reflective learning approach in the context of Islamic Religious Education (PAI) education can successfully improve students' metacognitive awareness. Students can get a deeper, more complex, and integrated understanding of Islam through self-reflecting, thinking through ideas, and seeing how Islamic teachings apply to everyday life. With practice, this elevated metacognitive awareness can enable students to develop their capacity for autonomous learning, their capacity for problem-solving, and their capacity for applying religious principles to their daily life.

Several earlier research looked at efficient teaching strategies for raising students' metacognitive awareness. Examples include the problem-based learning model (Siagan et al., 2019; Sutarto et al., 2022; Yuan et al., 2020), the inquiry learning model (Asy'ari & Ikhsan, 2019; Erenler & Cetin, 2019), and the discovery learning model (Junina & Halim, 2020; Susanti et al., 2022). However, there is limited research specifically exploring the impact of reflective learning models on students' metacognitive awareness in PAI learning. Consequently, this study aims to analyze the influence of reflective learning models on students' metacognitive awareness in the field of PAI.

In this research, the application of reflective learning models will serve as an instructional approach that allows students to engage in critical thinking, reflection, and the integration of religious concepts with their life experiences. It is anticipated that through the implementation of reflective learning models, students will develop enhanced metacognitive awareness, including self-understanding of effective learning strategies, monitoring of learning progress, and self-evaluation.

II. Method

This study employs a pretest-posttest control group experimental design. The participants are divided into two groups: the experimental group, which utilizes the reflective learning model, and the control group, which follows the conventional learning model. The research design is depicted in the table below:

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Experiment	Metacognitive Awareness	Reflective learning model	Metacognitive Awareness
Control	Metacognitive Awareness	Conventional learning models	Metacognitive Awareness

The study included a sample of 62 students who were purposefully selected to participate. These students were enrolled in Islamic Religious Education classes at MAN 2 Medan City. The data for the study were collected using a measurement instrument to assess metacognitive awareness. The instrument utilized was a questionnaire consisting of 20 statements specifically designed to gauge the level of metacognitive awareness among students in their Islamic Religious Education learning. The questionnaire utilized a 5-point rating scale, with the following scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The grid for the metacognitive awareness questionnaire is provided in Table 2.

Table 2. The metacognitive awareness questionnaire grid.

No	Statement	Scale				
1	I am able to understand well the learning objectives when studying PAI.	1	2	3	4	5
2	I am able to identify effective learning strategies.					
3	I always monitor my understanding of PAI material.					
4	I am able to recognize difficulties when learning PAI.					
5	I can evaluate my learning progress in PAI.					
6	I change learning strategies when I encounter obstacles.					
7	I often reflect on my understanding of Islamic teachings.					
8	I am able to relate the concept of PAI to personal experience.					
9	I am able to choose the best way to learn PAI material.					
10	I am aware of the factors that influence Islamic education learning.					
11	I use learning strategies that are appropriate to PAI assignments.					
12	I am able to control my attention when studying PAI.					
13	I change the learning method if it is not effective.					
14	I monitor my satisfaction and dissatisfaction in PAI learning.					
15	I am able to understand the implications of religious values in everyday life.					
16	I use a different study method for difficult PAI topics.					
17	I am able to manage time well when studying PAI.					
18	I analyze the way of learning that is most effective for me.					
19	I often evaluate my success in learning PAI.					
20	I am able to understand my learning progress in PAI learning.					

The gathered data will undergo analysis using the t-test statistical method. This analysis is conducted to determine if there are any significant disparities in metacognitive awareness between the experimental group and the control group following the learning intervention.

III. Results and Discussion

The following presents the findings from the statistical analysis of the research data investigating the impact of the Reflective learning model on Students' Metacognitive Awareness in Islamic Religious Education Learning for both the experimental group and the control group.

Table 3. Statistical Description of Students' Metacognitive Awareness Variables

Group	N	Mean	Std. Deviation	Minimum	Maximum
Pretest Experimental	31	72.6	8.6	62	89
Pretest Control	31	72.8	9.2	59	86
Posttest Experimental	31	91.4	7.9	68	95
Posttest Control	31	76.5	8.4	61	88

Table 3 presents the data on students' metacognitive awareness scores at the pretest stage. The average score for the experimental group was 72.6, while the control group had an average of 72.8. The experimental group's standard deviation was 8.6, whereas the control group was 9.2. These findings indicate a small difference between the two groups' pretest metacognitive awareness ratings. The experimental group's pretest score was 62, while the control group's score was 59, and the experimental group's score was 89, while the control group's score was 86. Moving on to the posttest phase, it was found that the experimental group's metacognitive awareness scores had significantly improved, with an average score of 91.4. The average score for the control group was 76.5, in comparison. The experimental group's standard deviation was 7.9, whereas the control group was 8.4. The substantial difference in average scores between the pretest and posttest indicates that metacognitive awareness scores in the experimental group have increased. The experimental group received a posttest score of 68, compared to a score of 61 for the control group, whereas the experimental group received a score of 95, compared to a score of 88 for the control group.

These results indicate that the reflective learning model's implementation has a significant influence on raising students' metacognitive awareness in Islamic Religious Education. During the posttest phase, the experimental group showed better progress in metacognitive awareness than the control group. This suggests that, in contrast to traditional learning methods, the reflective learning model is excellent in encouraging students' metacognitive awareness.

Moreover, to determine the significance of the treatment provided, an independent samples t-test was conducted. Prior to conducting the t-test, prerequisite assessments such as the normality test and homogeneity test were performed. The results of the normality test and homogeneity test are presented in Table 4.

Table 4. Normality Test Results

	N	Shapiro-Wilk	p-value
Pretest Experimental	31	0.964	0.281
Pretest Control	31	0.954	0.167
Posttest Experimental	31	0.976	0.568
Posttest Control	31	0.952	0.137

Based on the table, it can be observed that during the pretest phase, the experimental group obtained a Shapiro-Wilk score of 0.964 with a p-value of 0.281, while the control group received a Shapiro-Wilk score of 0.954 with a p-value of 0.167. Both groups demonstrated p-values higher than 0.05, suggesting that the data in both groups were normally distributed at the pretest stage. Similarly, during the posttest phase, the experimental group exhibited a Shapiro-Wilk score of 0.976 with a p-value of 0.568, while the control group displayed a Shapiro-Wilk score of 0.952 with a p-value of 0.137. Additionally, the p-values for both groups during the posttest stage also exceeded the predetermined alpha value, indicating that the data in both groups were normally distributed at the posttest stage as well.

Based on the outcomes of the normality test, it can be inferred that the data within each group during the pretest and posttest stages exhibit a normal distribution. Subsequently, the homogeneity test is conducted, and the corresponding results are presented in the table below:

Table 5. Homogeneity Test Results

	F-value	p-value
Pretest	0.101	0.752
Posttest	1.438	0.240

From the provided table, it can be observed that during the pretest stage, the F-value is 0.101 with a corresponding p-value of 0.752. Since the p-value is greater than the predetermined significance level (alpha = 0.05), it can be concluded that there is no significant difference in the homogeneity of variance between the experimental group and the control group at the pretest stage. Similarly, at the posttest stage, the F-value is 1.438 with a p-value of 0.240, indicating no significant difference in the homogeneity of variance between the two groups. Based on the results of these homogeneity tests, it can be inferred that the variance scores of students' metacognitive awareness in both groups are evenly distributed at both the pretest and posttest stages. Consequently, the assumption of homogeneity of variance is fulfilled for further analysis.

Once the two prerequisite tests are satisfied, an independent sample t-test can be conducted. The outcomes of the t-test are presented in Table 6.

Table 6. T-test Result

	N	Mean Difference	t-value	p-value
Pretest	62	-0.2	-0.35	0.726
Posttest	62	14.9	5.64	<0.001

In Table 6 presented above, the t-test results indicate variations in the metacognitive awareness scores of students between the experimental group and the control group during the pretest and posttest stages. During the pretest stage, there was a mean difference of -0.2 between the two groups. The t-test yielded a t-value of -0.35 with a p-value of 0.726. Since the p-value is greater than the significance level (alpha) of 0.05, there is no significant difference in the metacognitive awareness scores of students between the experimental group and the control group at the pretest stage. However, a significant difference was observed between the two groups during the posttest stage. At this stage, the mean difference between the experimental group and the control group was 14.9. The t-test resulted in a t-value of 5.64 with a very

small p-value, less than 0.001. This shows a substantial difference between the experimental group and the control group in the posttest metacognitive awareness scores of the students.

The adoption of the reflective learning approach has a considerable influence on raising students' metacognitive awareness in Islamic Religious Education, according to these t-test results. The substantial difference in scores between the experimental group and the control group at the posttest stage is proof of this increase. In contrast, during the pretest stage, there was no discernible difference between the two groups.

According to the findings of the t-test analysis, there was no discernible difference between the experimental group's and the control group's metacognitive awareness ratings during the pretest stage. This implies that both groups' metacognitive awareness levels were comparable before the intervention. However, a substantial distinction between the two groups became apparent in the posttest stage. With an average rise of 14.9 points, the experimental group's metacognitive awareness ratings significantly improved after undergoing the reflective learning approach. The control group, which did not get the intervention, only showed a little improvement on average of 1.6 points. These results show how the reflective learning approach has an effective and significant effect on raising students' metacognitive awareness in the setting of Islamic religious education. The use of reflective learning models gives students the chance to actively reflect on their knowledge and learning processes, allowing them to develop a deeper grasp of both their learning strategies and the subject matter.

The findings of this investigation consistently support earlier studies carried out in comparable settings. For instance, a research by Adhi et al. (2022) that looked at the efficiency of the reflective learning model in Islamic Religious Education likewise found that students' metacognitive awareness significantly increased after the model was implemented. These results support the findings of the current study and show that reflective learning methods can significantly improve students' metacognitive awareness. Furthermore, research conducted by Muhali et al. (2019) demonstrates that the reflective learning model exhibits good validity in enhancing students' metacognitive abilities. Students who engage in learning activities using this model exhibit a notable increase in their metacognitive skills compared to those engaged in conventional learning methods. Alt and Raichel (2020) also found that reflective learning plays a crucial role in boosting students' metacognitive awareness. Students who regularly engage in reflective journal writing demonstrate an enhancement in their understanding of effective learning strategies, self-monitoring, and self-regulation throughout the learning process. These findings provide further support for the current study's results, indicating that the reflective learning model positively influences the development of students' metacognitive awareness in Islamic Religious Education.

The consistent findings between this study and previous research further support the notion that reflective learning models play a crucial role in enhancing students' metacognitive awareness in religious education. These implications serve as a foundation for the broader implementation of reflective learning models in religious education, with the aim of improving learning quality and student achievement in these subjects.

The results of this study strongly align with metacognition theory, which posits that a strong metacognitive awareness positively influences students' learning abilities and comprehension (Teng et al., 2022). Metacognition theory revolves around students' understanding of how they learn, make sense of information, and regulate their own learning processes (Zhao & Ye, 2020). In the context of this study, the observed increase in students' metacognitive awareness following the implementation of the reflective learning model can be associated with improved learning abilities and understanding in Islamic Religious Education. As students become more aware of effective learning strategies, they are better equipped to select and apply suitable approaches for comprehending religious concepts (Azmee, 2022). Additionally, they become more attuned to the challenges they encounter and can identify strategies to overcome obstacles in their understanding.

In practical terms, an enhanced metacognitive awareness can support students in effectively managing their study time, utilizing learning resources, and making informed decisions when confronted with assignments or challenges in the realm of learning Islamic Religious Education. Students with a strong metacognitive awareness tend to take a proactive approach in seeking assistance or delving deeper when they encounter difficulties in comprehension, thereby enhancing their learning outcomes (Nusantari et al., 2021).

Consequently, these findings underscore the significance of cultivating students' metacognitive awareness within the context of religious education. When designing strategies for Islamic Religious Education instruction, educators should prioritize the development of students' metacognitive awareness. In this regard, the reflective learning model proves to be a valuable tool in helping students foster their metacognitive awareness, reinforce effective learning strategies, and deepen their comprehension of religious concepts.

Ultimately, this study helps us better understand how reflective learning models affect students' metacognitive awareness when they are studying Islamic religious education. These findings may serve as a starting point for the development of more effective instructional strategies

aimed at increasing students' understanding and enhancing their overall learning experiences."

IV. Conclusion

The study results show that using the reflective learning model significantly affects how well students' metacognitive awareness is developed in Islamic religious education. The experimental group. The experimental group, which employed the reflective learning paradigm, significantly improved metacognitive awareness scores at the posttest stage compared to the control group, which did not receive intervention. This exemplifies the effectiveness of the reflective learning paradigm in raising students' awareness of their own metacognitive processes. This study's conclusions have several important repercussions. First, the adoption of reflective learning models can enhance the standard of Islamic religious education by focusing on students' awareness of their learning process and comprehension of religious concepts. Students' ability to comprehend and apply religious concepts as well as their comprehension of effective learning strategies may both be improved with the aid of this approach. Second, this study emphasizes the importance of including metacognitive elements in instructional design. To help students have a deeper understanding of the material and improve their study abilities, educators and teachers can incorporate self-reflection and self-awareness tools into Islamic religious education. It should be highlighted that this research has certain restrictions, including a limited sample size, and that more studies with bigger samples are thus required. Future studies might also look at the impact of other factors like learning motivation, learning preferences, or individual traits on students' metacognitive awareness.

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