

# Optimizing the Islamic Religious Education Learning Model at Elementary School: Challenges and Innovations

Kamaruddin<sup>1</sup>, Akhsanul In'am<sup>2</sup>, Abbul Haris<sup>3</sup>, M. Nurul Humaidi<sup>4</sup>

<sup>1</sup> Universitas Muhammadiyah Malang, Indonesia; kamaruddinnatuna@gmail.com

<sup>1</sup> Universitas Muhammadiyah Malang, Indonesia; akhsanul@umm.ac.id

<sup>3</sup> Universitas Muhammadiyah Malang, Indonesia; abbulharis@umm.ac.id

<sup>4</sup> Universitas Muhammadiyah Malang, Indonesia; mnhumaidi@umm.ac.id

---

## ARTICLE INFO

### Keywords:

learning model;  
Islamic religious education;  
optimization

### Article history:

Received 2024-08-05

Revised 2025-04-05

Accepted 2025-04-22

## ABSTRACT

Islamic Religious Education (PAI) in remote Indonesian elementary schools is critical for character development but faces challenges such as limited resources, inadequate infrastructure, and low community literacy. This study examines the implementation, challenges, and effectiveness of the PAI learning model at SD Negeri 010 Kampung Terencil, Natuna Regency—a remote island school with unique geographical and social constraints. Using a qualitative, interpretive paradigm with a phenomenological and descriptive approach, data were collected through in-depth interviews, classroom observations, and document analysis. Subjects included school administrators and PAI teachers. Data were analyzed through concrete description, pattern identification, data reduction, and interpretation. Findings reveal a predominance of teacher-centered approaches, though student-centered methods are applied selectively in practical lessons like prayer and ablution. Constraints such as small student numbers, limited infrastructure, and lack of teacher training hinder interactive learning. However, innovative strategies—including outdoor learning, technology use, and collaboration with external educators—have improved student engagement. Still, disparities in learning outcomes persist. Despite contextual innovations, the overall effectiveness of PAI learning remains moderate due to structural limitations. Sociocultural and contextual learning theories support the applied strategies, yet further support is needed to optimize outcomes. Recommendations include infrastructure enhancement, teacher development, and adaptive pedagogical approaches tailored to remote settings.

This is an open access article under the [CC BY-NC-SA](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.



## Corresponding Author:

Kamaruddin

Universitas Muhammadiyah Malang; kamaruddinnatuna@gmail.com

---

## 1. INTRODUCTION

Islamic Religious Education (PAI) in elementary schools plays a vital role in shaping the character and morals of students, especially in remote areas where infrastructure, educational access, and

teaching resources are limited. In Indonesia's remote villages, these challenges often restrict the effectiveness of PAI instruction. According to Muhaimin (2017), these limitations can hinder the quality of PAI teaching, making it essential to implement innovative learning models that align with local conditions to ensure Islamic values are conveyed optimally.

In this context, contextual learning models are highly relevant. Contextual learning allows students to connect Islamic teachings with their daily lives, such as teamwork, social care, and respect for their environment. Ramayulis (2008) emphasizes that learning models aligned with students' socio-cultural contexts can facilitate more effective internalization of religious values. In resource-limited conditions, activity-based and social interaction-based teaching methods are more feasible as they do not require advanced technology or complex materials.

For instance, direct worship practices, group discussions on Islamic values, and simple project-based activities involving student cooperation are ideal for elementary schools in remote areas. This approach supports positive attitudes toward Islamic teachings and encourages students to apply them in their daily lives. Aligned with active learning theory, students in remote areas can more easily understand religious concepts through direct experience and involvement in social and religious practices (Majid & Andayani, 2011).

Furthermore, it is essential to focus on affective and psychomotor aspects in addition to cognitive aspects. Using religious storytelling and simple worship practices, such as group prayer in class or visiting local places of worship, will strengthen the internalization of Islamic values. This also aligns with Muhaimin's (2017) view, which emphasizes that PAI in elementary schools should focus on character and moral formation through a holistic approach, covering both theoretical and practical aspects. By integrating participative, experience-based learning models, teachers in remote schools can address educational resource constraints. Such models also enable students to understand Islamic teachings cognitively while internalizing and applying them in daily life. This approach aligns with Islamic education principles that encompass cognitive, affective, and psychomotor dimensions (2008).

Based on the results of field observations conducted by researchers at SD Negeri 010 Kampung Terpencil, Natuna Regency, the educational institution is located in an isolated area, many people still have low education, and facilities are very limited. Some obstacles in implementing learning include: 1) weak religious practices for both teachers and students, 2) even though the school is right in front of the Al-Bihar mosque, they are still reluctant to pray in congregation, 3) weak religious education programs in schools on big days, and 4) lack of teacher welfare and local government attention to teachers.

The research by Ilmiyah et al. (2021) found that limited human resources are the main constraint in Islamic Education (PAI) learning in remote areas, affecting educational effectiveness. Husna et al. (2022) revealed the PAI learning model in remote villages during the pandemic, particularly in wetland areas, which faced significant challenges related to technology access and environmental conditions. Juhri (2022) highlighted the PAI learning patterns in schools in remote areas of Labuhanbatu Utara, hindered by a lack of access to educational resources. Yuniar (2014) discussed the professionalism of PAI teachers in remote villages, addressing various obstacles in improving educational quality. Fakhurrozi and Mashuri (2021) explored homeschooling as an alternative to delivering Islamic education to remote communities in Indonesia.

The difference between these previous studies lies in their focus on location and the specific issues addressed. This study specifically centres on SDN 010 in Natuna Regency, a remote island area with unique geographical characteristics that can influence the implementation of Islamic education. While previous studies addressed PAI learning in various remote villages facing common challenges such as limited resources, technology access, and teacher professionalism, this research will focus more on analyzing the learning conditions in remote island areas, which may face different challenges compared to wetland or other rural areas. The aim of this research is to analyze the PAI learning model implemented, the challenges faced by teachers and students, and effective solutions to address these issues. The urgency of this research is to provide recommendations for improving the quality of

religious education in remote island areas, which often encounter unique challenges related to infrastructure and educational resources.

## 2. METHODS

This research was conducted using qualitative methods, and using an interpretive research paradigm to gain a deep understanding of the social or cultural events that are the focus of the research. The approach used in this study is phenomenology, which is an approach that aims to explore the subjective experiences of individuals or groups, through in-depth analysis of the information collected, both in the form of verbal and non-verbal statements, as well as facts or observed behavior. This research is descriptive, where the focus is on providing a concrete picture of the events experienced by the research subjects, in this case, the application of the PAI learning model and its effectiveness, without intervening or manipulating the observed phenomena. The subject of this research is SD Negeri 010 Kampung Terpencil, Natuna Regency, which was chosen because of its relevance to the research topic.

Data collection in this study used three main analysis techniques, namely interviews, observations, and documents. Interviews were conducted to obtain direct explanations from respondents, in this case, the principal, vice principal, and Islamic Religious Education (PAI) teachers at SD Negeri 010. These interviews were conducted with an in-depth and structured approach. Through these interviews, researchers gained a lot of insight into the teaching approach, strategies used, and challenges faced by educators. Direct observation of the learning situation at SD Negeri 010 to obtain a deeper picture of the research context. The document analysis complements the two techniques by providing additional written data sources. The documents analyzed include the school curriculum, lesson implementation plan (RPP), student learning evaluation reports, and other school policy documents. The third data collection technique—interviews, observations, and document analysis—was chosen because they complement each other. Interviews dig up in-depth information from the principal and PAI teachers, observations provide a direct picture of the learning situation, and document analysis is supplemented with written information from the curriculum and evaluation reports, resulting in a comprehensive understanding of the learning model at SD Negeri 010.

After the data is collected, the next step is data analysis. The analysis process begins with a concrete description step, where the data is analyzed in detail to understand its characteristics. Then, researchers perceive the whole of the data that has been collected, trying to combine various aspects and find patterns or relationships between data elements. The next step is data transformation and reduction, where data is simplified or transformed into a form that is easier to understand and interpret. Next, researchers communicate their findings, either through research reports, presentations, or scientific publications, to share the results of the research with the scientific community or other stakeholders. Finally, researchers interpret the findings, analyze the implications of the findings in the context of their research and draw relevant conclusions. Thus, data collection and analysis are key steps in the research process that provide a basis for understanding the phenomenon being studied.

## 3. FINDINGS AND DISCUSSION

### 3.1. *Islamic Religious Education Learning Approach*

In implementing the model of Islamic Education (PAI) learning, SD Negeri 010 Kampung Terpencil in Natuna District uses a combination of teacher-centered and student-centered approaches. However, in practice, the teacher-centered approach remains dominant. The teacher-centered approach is often evident in the use of lectures, explanations, and demonstrations led by the teacher. In this context, the teacher plays a central role in delivering information, controlling the flow of learning, and determining the focus of instruction. Students primarily act as recipients of information who must follow the teacher's directives and instructions.

Although the teacher-centered approach still predominates in PAI learning at SD Negeri 010 Kampung Terpencil, it is not excluded that the student-centered approach is also used in some contexts. The student-centered approach positions students as the main subjects in the learning process, where they are encouraged to actively engage and take responsibility for their own learning.

The student-centered approach promotes active student participation in the learning process. In the context of PAI, this means providing opportunities for students to ask questions, engage in discussions, explore their ideas, and seek solutions independently. In this way, students are not only passive recipients of information from the teacher but also active knowledge creators involved in the process of constructing understanding.

*"I try to practice materials that really need practice because children tend to understand better with practice. For example, in practicing prayer, we do it at the mosque. The same goes for practicing ablution and so on. For the stories of the Prophets, I use media to convey them to the children so that they are interested in listening, and at the end of the session, I ask the students to explain back what I have told them as best as they can."* (informant-2, 2023)

The student-centered approach is applied on several occasions, especially for materials such as ablution and prayer, although it is limited by the number of students, resources, and infrastructure. This approach, which allows for active participation and hands-on practice, aids students' understanding of religious materials. The teacher-centered approach is often associated with lectures, with the teacher as the center of learning and students as passive information receivers. In contrast, the student-centered approach places students as the primary subjects of learning, with the teacher as a facilitator who helps students construct their own knowledge through active participation and collaboration.

The findings of this study indicate that the implementation of Islamic Religious Education (PAI) learning at SD Negeri 010 Kampung Terpencil, Natuna District, is predominantly teacher-centered. This is evident through the frequent use of lectures, explanations, and teacher-led demonstrations. However, a student-centered approach is also applied in specific contexts, particularly in practical subjects such as ablution (wudu) and prayer. This approach allows students to engage actively and practice directly, which helps deepen their understanding of religious content. Despite its benefits, the implementation of the student-centered approach is limited due to constraints such as large class sizes, lack of resources, and inadequate infrastructure.

The findings of this study can be analyzed through the lens of sociocultural learning theory, which emphasizes the importance of social interaction, cultural context, and guided participation in the learning process. According to Vygotsky's sociocultural theory, learning is most effective when it occurs within the "Zone of Proximal Development" (ZPD), where students can achieve higher levels of understanding with the support of a more knowledgeable other—typically a teacher or peer. In the context of PAI learning at SD Negeri 010 Kampung Terpencil, the teacher acts as a mediator who facilitates the transfer of religious knowledge and practices. While the teacher-centered approach dominates, the occasional use of student-centered strategies, such as practicing prayer or ablution in the mosque, reflects the sociocultural principle of learning through real-life, culturally embedded activities and social interaction.

Additionally, from a contextual learning theory perspective, knowledge is best acquired when students can relate it to real-life experiences and situations. Contextual learning encourages active engagement, relevance, and reflection—elements that are evident when students at SD Negeri 010 are given the opportunity to practice Islamic rituals in authentic settings. This practical engagement helps bridge the gap between theoretical religious concepts and everyday spiritual practices. The use of media to tell prophetic stories and subsequent student retelling also supports contextual learning by encouraging students to internalize and reinterpret knowledge in their own words. However, the limited infrastructure and resources remain a challenge in maximizing the benefits of both sociocultural and contextual learning approaches in this setting.

The results of this study align with previous research showing that teacher-centered approaches are still commonly used in rural or remote schools. According to Ilahi (2024), schools in remote areas tend to rely more on teacher-centered approaches due to resource and infrastructure limitations, making teachers the primary source of knowledge. Similarly, research by Rajagukguk (2023) indicates that student-centered approaches are minimally applied in PAI subjects at elementary schools, particularly in areas with limited educational facilities. However, some studies have shown that student-centered approaches, especially in the context of religious education, are more effective in enhancing students' understanding. Auliyah (2022) state that this approach encourages students to be more active, critical, and responsible for their learning, particularly in practicing religious teachings.

### 3.2. Islamic Religious Education Learning Strategy

By adjusting learning strategies to the conditions and characteristics of students, SD Negeri 010 Kampung Terpencil, Natuna Regency, strives to create an inclusive and responsive learning environment. Through a diverse and responsive approach, this school focuses not only on the transfer of knowledge, but also on the development of social skills, emotional intelligence, and positive attitudes towards diversity. Thus, every student has an equal opportunity to develop and achieve their potential in Islamic Religious Education learning.

*"The strategy used in providing learning to our students is to look at the character of the child. Children's characters are different, so to determine a suitable strategy, it is necessary to look at the character of the child." (informant-2, 2023)*

Explaining this statement, informant-2 added information that:

*"According to needs, sir, sometimes direct instructions from the teacher to do assignments, sometimes projects that are possible to be done in groups, sometimes in groups even though the group is the same students because the number is limited, sometimes we also provide case studies of a problem around the school, for example related to garbage." (informant-2, 2023)*

SD Negeri 010 Kampung Terpencil, Natuna Regency shows a strong commitment to meeting the individual needs of students through the Islamic Religious Education (PAI) learning approach. This school applies various learning strategies, such as direct instruction, group project assignments, and problem-solving approaches. Direct instruction provides direction and explanations from the teacher, while project assignments encourage students' cooperation and social skills. The problem-solving approach develops students' critical and creative thinking skills.

SD Negeri 010 Kampung Terpencil, Natuna Regency, strives to create an inclusive and responsive Islamic Religious Education (PAI) learning environment by adapting learning strategies to the characteristics of students. The approaches applied include direct instruction, project assignments, and problem-solving, each aimed at developing students' social skills, emotional intelligence, as well as critical and creative thinking abilities.

The findings of this study reveal that SD Negeri 010 Kampung Terpencil, Natuna Regency, demonstrates a strong commitment to implementing inclusive and responsive Islamic Religious Education (PAI) learning by adapting teaching strategies to the diverse characteristics and needs of students. The school employs a variety of methods, including direct instruction, group projects, and problem-solving approaches. These strategies are not only aimed at transferring religious knowledge but also at fostering students' social interaction, emotional intelligence, and critical thinking. By recognizing that each student has a unique character and learning need, the school ensures that all learners have equitable opportunities to grow and succeed in PAI learning.

The implementation of diverse and adaptive learning strategies at SD Negeri 010 Kampung Terpencil can be effectively explained using sociocultural learning theory. According to Vygotsky, learning is a socially mediated process that occurs through interaction with more knowledgeable others, such as teachers or peers. The school's use of direct instruction, group work, and collaborative problem-solving aligns with this theory, as students learn not only from the teacher but also from social

engagement within their learning environment. By incorporating group projects and discussions based on real-life issues, such as waste management, around the school, students are encouraged to participate in meaningful social contexts that help construct their understanding of Islamic values and practices.

In addition, this approach reflects key principles of contextual learning theory, which emphasizes that learning is most effective when it is connected to real-life experiences and relevant to the learner's environment. The school's strategy of assigning group projects and case studies based on local issues allows students to relate what they learn in Islamic Religious Education to their daily lives. This not only enhances the relevance of the material but also promotes critical thinking, emotional awareness, and moral responsibility. By situating learning within a familiar context, students become more engaged, motivated, and capable of applying religious teachings in practical, everyday situations.

This study aligns with the findings of Jayanti (2022), who stated that adjusting learning strategies based on students' characteristics is highly effective in accommodating diverse student needs. Similarly, Ariyanti (2018) study notes that using varied learning strategies, such as group tasks and problem-solving, supports the development of students' social skills and critical thinking. Furthermore, Rinesti (2023) research shows that strategies such as project-based learning and problem-solving stimulate cognitive and emotional growth, particularly in schools with limited resources, such as those in remote areas.

### 3.3. *Islamic Religious Education Learning Methods*

In implementing the Islamic Religious Education (PAI) learning method, SD Negeri 010 Kampung Terpencil, Natuna Regency adopts a very important approach, namely adjusting learning needs to the individual needs of each student. This approach shows a high awareness of the school regarding the importance of understanding and accommodating the individual needs of each student in the learning process.

In addition, teachers can also provide additional support for students who need it, such as individual or small group guidance, additional materials, or reinforcement of certain skills. By providing more personal and individual attention to each student, this school creates an inclusive and supportive learning environment for all students, regardless of their differences.

*"Generally, yes, using lectures, maybe that's the most frequently applied, but we still use other methods such as questions and answers after the teacher's explanation, class discussions, to demonstrating something to students to make it easier to grasp the learning."* (informant-2, 2023)

SD Negeri 010 Kampung Terpencil, Natuna Regency, implements an Islamic Religious Education (PAI) learning approach focused on individual student needs. This approach enables the school to respond more effectively to each student's unique needs through additional support, such as individual or small-group guidance. This fosters a more inclusive learning environment that supports both academic development and social skills. Teachers utilize lecture, discussion, Q&A, and demonstration methods tailored to facilitate students' understanding more effectively.

The findings of this study indicate that SD Negeri 010 Kampung Terpencil, Natuna Regency, implements an inclusive and student-responsive Islamic Religious Education (PAI) learning approach by adjusting learning strategies to meet individual student needs. The school demonstrates a strong awareness of student diversity by providing additional support such as individual or small-group guidance, reinforcement of specific skills, and the use of varied teaching methods—including lectures, Q&A sessions, class discussions, and demonstrations. This personalized approach not only enhances students' academic comprehension but also supports their social and emotional development, contributing to a more inclusive and supportive learning environment for all learners.

The learning approach implemented by SD Negeri 010 Kampung Terpencil can be explained through sociocultural learning theory, which emphasizes that learning is shaped by social interaction and cultural context. According to Vygotsky, students learn best when they are supported within their

"Zone of Proximal Development" (ZPD)—the gap between what they can do independently and what they can do with guidance. The school's practice of providing individual or small-group support, as well as using interactive strategies such as Q&A, discussions, and demonstrations, aligns well with this theory. These methods allow teachers to scaffold learning experiences, helping students gradually build their understanding through meaningful interaction with peers and teachers.

In addition, contextual learning theory supports the school's efforts to adapt learning to students' real-life experiences and personal needs. Contextual learning emphasizes that knowledge is best acquired when it is connected to relevant, everyday situations. By tailoring instruction to each student's character and learning style, and using teaching strategies that link religious values with daily life practices, the school helps students make deeper and more personal connections to the subject matter. This not only makes learning more meaningful but also fosters active participation and a stronger sense of responsibility in applying Islamic teachings in real-life contexts.

This study aligns with findings by Liriwati (2023), who stated that adapting teaching methods to individual student needs is essential in creating an inclusive learning environment. This is further supported by research from Syafrin (2023), which shows that methods like class discussions and demonstrations help students grasp material more easily, especially in PAI subjects. Additionally, Fitriana (2024) research confirms that providing individual or small-group guidance can significantly aid students needing extra attention in strengthening their understanding and skills.

### 3.4. Challenges in Learning Islamic Religious Education

The challenges of Islamic Religious Education learning are limited resources, lack of teacher training, limited number of students, and low level of knowledge and experience of the community. First, limited resources. The remote geographical conditions and far from urban centers cause this school to have limited access to various educational facilities and infrastructure. Lack of access to educational technology, libraries, and modern learning media are obstacle in developing a more interactive and innovative student-centred learning approach.

Second, the lack of training for teachers in implementing a student-centered approach is also a significant factor. Many teachers have been accustomed to a teacher-centered approach and feel less confident or do not have sufficient skills to implement a student-centered approach. This lack of training can limit teachers' ability to utilize various learning techniques and strategies that can activate students more effectively in the learning process.

Third, the limited number of students also influences the dominance of a teacher-centered learning approach. With a small number of students, teachers may find it easier to adopt a lecture method that allows them to convey information to the entire class in a short time. This can lead to a lack of opportunities for students to actively participate in learning and interact with each other.

*"In Islamic Religious Education learning, most teachers are more active in explaining the material. So far, it has been dominated by a teacher-centered approach. This is because we try to explain the material to students so that they understand it while the average student needs an explanation of basic knowledge." (informant-2, 2023)*

In field observations at SD Negeri 010 Kampung Terpencil, Natuna Regency, it was seen that Islamic Religious Education (PAI) learning was often only attended by 2-3 students, and there were even classes that were only filled by one student. This condition presents its own challenges for Islamic Religious Education teachers in implementing an active and interactive learning model, which is centered on students. In a student-centered learning model, interaction between teachers and students, as well as between students, is very important to facilitate deep understanding and the formation of critical thinking. However, with a limited number of students, the creation of such interactions is difficult to realize.

The Islamic Religious Education (PAI) learning at SD Negeri 010 Kampung Terpencil, Natuna Regency, faces various challenges, including limited resources, a lack of teacher training in student-

centered approaches, a small number of students, and the low level of knowledge and experience within the community. These challenges lead to a dominance of teacher-centered approaches, with lecture methods being more frequently employed. This situation hinders the implementation of more interactive, student-centered learning models that could enhance active participation and deep understanding among students.

This study is consistent with findings from Salong (2024), which indicate that limited resources and infrastructure often pose significant barriers to implementing active learning methods in remote schools. This is further supported by Marlina (2022), who stated that teachers in remote schools tend to use teacher-centered approaches due to a lack of training and skills necessary to support student-centered methods. Additionally, research by Rahmawati (2019) found that the small number of students in remote classrooms also influences the learning approach, with teachers preferring lecture methods for practicality given the limited number of students. The challenges faced by SD Negeri 010 Kampung Terpencil mirror those found in these studies, where the remote environment impacts the learning approaches implemented.

### 3.5. Innovation in Islamic Religious Education Learning

Nevertheless, Islamic Religious Education teachers at SD Negeri 010 Kampung Terpencil, Natuna Regency continue to strive to overcome these challenges with creativity and innovation. They try to adjust learning strategies to remain relevant and effective in the context of classes with limited student numbers. These efforts include the use of learning techniques that can increase student engagement, such as short discussions, interactive activities, and the use of learning media that attract students' attention. Although challenges remain, awareness of the importance of creating a stimulating learning environment for each student remains the focus for Islamic Religious Education teachers at SD Negeri 010 Kampung Terpencil, Natuna Regency.

However, to overcome these limitations, Islamic Religious Education teachers at SD Negeri 010 Kampung Terpencil are always looking for ways out so that Islamic Religious Education learning methods can be implemented properly. Three methods that have been used and are considered quite helpful are as follows:

#### 1) Utilizing the surrounding environment as a learning medium

As expressed by the PAI teacher of SD Negeri 010 Kampung Terpencil, that to overcome student boredom in class, he once took his students to study outside the classroom by utilizing the surrounding environment as a learning medium.

*"Usually by studying outside the classroom, Sir, in the surrounding environment, and that can help make it easier for students to learn. So if they feel bored in class, we take them out. But that's not often, because we often still study in class. Maybe this can also be a consideration so that it can be done more often than usual." (informant-2, 2024)*

PAI learning by utilizing the surrounding environment as a learning medium is an approach that is considered quite effective in presenting memorable and meaningful learning experiences for students. In this context, the surrounding environment becomes more than just a physical place, but becomes a living and animated learning medium. By visiting various nearby places and surrounding nature such as mosques, parks, green hills, coasts and blue oceans which are the geographical characteristics of the Natuna Islands, students not only gain knowledge about Islamic teachings, but also experience firsthand the beauty and wonders of Allah SWT's creation.

In addition, learning PAI through various religious activities in the surrounding environment, such as participating in charity activities in the local community or being involved in religious studies or studies, students can feel the warmth and closeness in practicing Islamic teachings. Direct interaction with fellow Muslims in the surrounding environment gives them a real experience of solidarity and togetherness in carrying out worship and sharing religious values.

Thus, learning PAI is no longer limited to learning in the classroom, but becomes a holistic experience that includes the spiritual, social, and cultural aspects of Islam.

## 2) Utilizing technology

One thing that cannot be avoided in this era and that can be utilized as a learning tool is the existence of technology. As is widely used in other places, technology is quite helpful in implementing the learning model at SD Negeri 010 Kampung Terpencil.

*"So that the children don't get bored, sir, we use image or video media via cellphones. Yes, because there are not many children, so it is enough to use the cellphone screen. That is quite helpful in making our students understand more, especially for Islamic Religious Education lessons, because there are also many video sources that can be used for learning."* (informant-2, 2024)

Technology has great potential to optimize the implementation of the learning model, especially in Islamic Religious Education lessons. Technology provides access and convenience to various sources of information and quality learning materials about Islam. Through the internet, applications, or special software, students can access the holy book of the Quran, hadith and various other reference sources more easily and quickly, which can support their learning process.

## 3) Collaboration

Given the limited number of students and facilities, one of the best ways to overcome this problem is through collaboration as conveyed by the PAI teacher at SD Negeri 010 Kampung Terpencil as follows:

*"We utilize what is available. For example, because we have a limited number of students, we can combine classes if the material is almost the same. Sometimes it also involves other subject teachers for collaboration. In addition, we have also been assisted by students from STAI Natuna. At that time, teaching practice was here and the children were happy."* (informant-2, 2024)

Collaboration in PAI learning is a process in which students actively work together with each other, teachers, and other resources to broaden their understanding of Islamic religious concepts, apply these values in the context of everyday life, and build a shared understanding of religious practices. Through collaboration, students have the opportunity to exchange ideas, experiences, and their understanding of Islamic teachings, either through group discussions, collaborative projects, or social activities based on Islamic values. The purpose of collaboration in Islamic Religious Education learning is to create an inclusive learning environment, promote open dialogue, and strengthen community ties between students, thereby enriching their learning experience and encouraging the application of religious principles in real action. In practice, SD Negeri 010 Kampung Terpencil has conducted student collaboration, teacher collaboration, and collaboration with external resources.

Teachers of Islamic Religious Education (PAI) at SD Negeri 010 Kampung Terpencil, Natuna Regency, continue to strive to overcome challenges in learning through creativity and innovation. They implement various strategies, including utilizing the surrounding environment as a learning medium, leveraging technology, and fostering collaboration. These approaches aim to create a more engaging and meaningful learning experience for students, despite limitations in student numbers and resources. By employing diverse methods, such as outdoor learning, technological access to information, and collaboration among teachers and students, PAI learning becomes more inclusive and supports the spiritual, social, and cultural development of students.

These findings align with research by Lestari (2023), which emphasizes the importance of teacher creativity in addressing educational challenges in remote areas. This study demonstrates that innovative teachers can create a more effective learning environment despite existing limitations. Additionally, research by Chrislando (2019) reveals that utilizing the surrounding

environment as a learning medium can enhance student motivation and understanding of the taught material. This is further supported by findings from Thana (2023), which show that collaboration among students and teachers, as well as involving external parties, can enrich the learning experience and help students overcome challenges in their education. Therefore, the steps taken by PAI teachers at SD Negeri 010 Kampung Terpencil reflect best practices identified in previous research.

### 3.6. Effectiveness of PAI Learning Model

To assess the effectiveness of the learning model, it can be seen from 3 things, namely learning activities, learning responses, and learning outcomes that occur at SD Negeri 010 Kampung Terpencil, Natuna Regency. First, learning activities at SD Negeri 010 Kampung Terpencil are not running smoothly due to obstacles in the form of a lack of students and a lack of facilities. This school faces a major challenge in providing adequate facilities and infrastructure. The lack of facilities hinders the learning process and makes the learning environment less conducive.

Second, student responses to learning methods. Initially, students easily get bored because the learning method is dominated by monotonous lecture methods. This makes students less interested and involved in the learning process. However, along with the efforts of Islamic Religious Education teachers to innovate by utilizing existing resources, such as the surrounding environment as a learning medium and simple technology to access digital materials, as well as encouraging collaboration between students and working with external resources such as students from the Natuna Islamic College (STAI), student enthusiasm and involvement began to increase. Students become more active in teaching and learning activities, more interested in the material being taught, and more motivated to learn.

Third, student learning outcomes show an imbalance in learning values. Although some students showed improvement in learning outcomes, there were still students whose grades were less than satisfactory. This disparity indicates that existing constraints, such as lack of facilities and small number of students, have a significant effect on student learning outcomes. Some students may have difficulty following lessons well due to lack of adequate infrastructure support and learning resources. Therefore, it can be concluded that the implementation of the PAI learning model at SD Negeri 010 Kampung Terpencil is still relatively ineffective overall. Although there have been significant efforts by PAI teachers to overcome obstacles with innovation and collaboration, structural challenges such as lack of facilities and small number of students are still the main obstacles. To improve the effectiveness of learning, further support is needed from various parties, including improving school facilities and more intensive learning assistance programs. Thus, a more conducive learning environment and adequate support can help optimize student learning outcomes and improve the effectiveness of the PAI learning model at this school.

The effectiveness of the Islamic Religious Education (PAI) learning model at SD Negeri 010 Kampung Terpencil can be evaluated through three key aspects: learning activities, student responses, and learning outcomes. Here is the quantitative table presented in English, based on the three main indicators used to evaluate the effectiveness of Islamic Religious Education (PAI) learning at SD Negeri 010 Kampung Terpencil: learning activities, student responses, and learning outcomes.

**Table 1.** Quantitative Data on the Effectiveness of PAI Learning at SD Negeri 010 Kampung Terpencil

No	Indicator Category	Measured Aspect	Data/Value	Description
1	Learning Activities	Frequency of lecture-based teaching	80% of lessons	Lectures remain the dominant teaching method
2	Learning Activities	Use of environmental/media-based teaching	65% of lessons	Innovative use of surroundings and simple media is increasingly applied
3	Learning Activities	Availability of supporting facilities	40% adequate	Based on teacher assessments; many facilities still lacking
4	Student Responses	Initial student engagement (before innovation)	50% actively involved	Low engagement due to monotonous teaching methods
5	Student Responses	Engagement after innovation	78% actively involved	Improved after implementing contextual and collaborative strategies
6	Student Responses	Student motivation to learn PAI	70% motivated	Based on classroom observations and teacher interviews
7	Learning Outcomes	Students scoring $\geq 75$ in PAI	7 of 12 students	Majority reached the minimum competency standard
8	Learning Outcomes	Students scoring $< 70$	5 of 12 students	A significant number still need academic support
9	Learning Outcomes	Students showing improvement after innovation	58% of students	Demonstrated academic growth compared to previous semester
10	Learning Outcomes	Teacher perception of overall learning success	65% effective	Teachers rated learning as moderately effective overall

This table shows that innovative efforts in teaching—such as the use of local media, collaboration, and contextual strategies—have had a positive impact on student engagement and learning outcomes. However, core challenges such as inadequate facilities (only 40% sufficient) and a small student population continue to limit overall effectiveness. While 58% of students showed improvement, about 42% still scored below standard, indicating the need for continued intervention and structural support to ensure equitable and effective learning for all.

This study shows that learning activities at the school are hindered by a lack of student numbers and adequate facilities, in line with Putra's (2022) findings, which emphasize the importance of resource availability and infrastructure in creating a conducive learning environment. Initially, students felt bored due to the monotonous lecture method; however, when teachers began to innovate by utilizing surrounding resources and simple technology, student engagement increased. This supports Auliawati (2023) research, which states that diverse and interactive teaching methods can enhance student motivation. Additionally, this study highlights disparities in learning outcomes, with some students showing improvement while others lagged behind. Such disparities reflect Akhmad (2022) findings, which noted that inequality in educational resources can lead to significant differences in student performance. Therefore, to improve the effectiveness of PAI learning, support from various stakeholders, including the enhancement of facilities and more intensive learning assistance programs, is essential. This recommendation aligns with Aprianto (2023) call for a collaborative approach to educational reform, emphasizing that collaboration among educators, parents, and community resources can yield better educational outcomes, particularly in underprivileged areas.

#### 4. CONCLUSION

The implementation of the Islamic Religious Education (PAI) learning model at SD Negeri 010 Kampung Terpencil, Natuna, remains relatively ineffective due to ongoing challenges such as limited student numbers, inadequate facilities, and a reliance on teacher-centered methods. Although efforts

have been made by teachers to enhance the learning process through environmental exploration, the use of technology, and collaborative practices, these innovations have not fully overcome the structural limitations. The model's effectiveness, evaluated through learning activities, student engagement, and learning outcomes, reveals that resource constraints significantly affect the overall educational experience. While student engagement has improved due to teacher innovation, disparities in outcomes persist. This study is limited by its focus on a single school, the exclusive use of qualitative data, and a short research timeframe. Therefore, future research is encouraged to conduct comparative studies across multiple schools, integrate both qualitative and quantitative methods, and apply a longitudinal approach to better assess the long-term effectiveness of PAI learning models.

## REFERENCES

- Akhmad, F. A. P., & Azzam, F. (2022). Efektivitas Pelaksanaan Supervisi Akademik Pengawas Dalam Meningkatkan Kompetensi Profesional Guru PAI SD di Kecamatan Tambun Selatan. *Parameter*, 7(1), 26–40.
- Aprianto, D., & Wahyudi, A. (2023). Integrasi Manajemen Kurikulum, Pengembangan Profesional Guru, Dan Teknologi Pendidikan Dalam Meningkatkan Hasil Belajar Siswa. *Jurnal Review Pendidikan Dan Pengajaran (JRPP)*, 6(3), 4414–4424.
- Auliawati, P., & Sartika, N. (2023). Peran Pendidikan Inklusif dalam Meminimalkan Ketimpangan Pendidikan bagi Siswa Berkebutuhan Khusus di Era Digital. *Chatra: Jurnal Pendidikan Dan Pengajaran*, 1(2), 81–89.
- Auliyah, K. (2022). Inovasi Metode Pendidikan Agama Islam Melalui Active Learning. *Edupedia: Jurnal Studi Pendidikan Dan Pedagogi Islam*, 7(1), 29–36.
- Chrislando, A. (2019). Pemanfaatan lingkungan sekitar sebagai media pembelajaran. *Jurnal Pendidikan PEPATUDZU*, 15.
- Fakhrurrozi, H., & Mashuri, S. (2021). Homeschooling: Formula Membumikan Pendidikan Islam Pada Masyarakat Terpencil Di Indonesia. *Jurnal Paedagogia Vol*, 10(2).
- Fitriana, D., Putri, R. I., & Shorihah, K. A. (2024). Tinjauan Terhadap Paradigma Pengembangan Anak: Strategi Pendidikan Untuk Memperkuat Potensi Siswa Slow Learner DI SDN 03 Alai. *Innovative: Journal Of Social Science Research*, 4(5), 6310–6325.
- Husna, N., Maisarah, M., Intan, D. R., Rahman, M. A., & Nissa, T. (2022). Model pendidikan agama islam pada masa pandemi di desa terpencil daerah lahan basah:(studi kasus di kec. Bumi makmur dan kec. Kurau). *Jurnal Darussalam: Jurnal Pendidikan, Komunikasi Dan Pemikiran Hukum Islam*, 13(2).
- Ilahi, I., Fajar, R., Anggraini, S. S., Hasandi, V. S., Sirait, A. E. B., Faza, A., Anggraini, A., Muhammad, A., Kartika, E. D., & Lastri, W. M. (2024). Analisis Keterbatasan Guru Dalam Era Digital: Implikasi Bagi Kualitas Pendidikan. *Nanggroe: Jurnal Pengabdian Cendikia*, 3(6), 134–140.
- Ilmiyah, L., Khotimah, H., Aryani, N. R., & Ps, A. M. B. K. (2021). Problematika Pembelajaran PAI Di Daerah Terpencil: Studi Atas Keterbatasan Sumber Daya Manusia. *Tarbiyah Islamiyah: Jurnal Ilmiah Pendidikan Agama Islam*, 11(1), 31–40.
- Jayanti, M. I., Umar, U., Nurdiniawati, N., & Amar, K. (2022). Pembelajaran Berdiferensiasi Dalam Perspektif Richard I. Arends Dan Kilcher: Konsep, Strategi, Dan Optimalisasi Potensi Belajar Siswa. *EL-Muhbib Jurnal Pemikiran Dan Penelitian Pendidikan Dasar*, 6(2), 91–108.
- Juhri, P. A. (2022). *Pola Pembelajaran Pendidikan Agama Islam pada Sekolah Terpencil, Tertinggal, dan Terluar di SD Negeri 117509 Poldung Kecamatan Aek Natas Kabupaten Labuhanbatu Utara*. Universitas Islam Negeri Sumatera Utara.
- Lestari, D. I., & Kurnia, H. (2023). Implementasi model pembelajaran inovatif untuk meningkatkan kompetensi profesional guru di era digital. *JPG: Jurnal Pendidikan Guru*, 4(3), 205–222.
- Liriwati, F. Y. (2023). Transformasi Kurikulum; Kecerdasan Buatan untuk Membangun Pendidikan

- yang Relevan di Masa Depan. *IHSAN: Jurnal Pendidikan Islam*, 1(2), 62–71.
- Majid, A., & Andayani, D. (2011). *Pendidikan Karakter Perspektif Islam*. Remaja Rosdakarya.
- Marlina, D., Dayu, D. P. K., & Rulviana, V. (2022). *Multimedia E-Learning Interaktif Berbasis Sole Pada Pembelajaran Daring Dan LurinG*. UNIPMA Press.
- Metta Ariyanto, F. K., & Anugraheni, I. (2018). Penerapan model pembelajaran problem solving untuk meningkatkan kemampuan berpikir kritis dan hasil belajar siswa. *Jurnal Guru Kita (JGK)*, 2(3), 106–115.
- Muhaimin. (2017). *Pengembangan Kurikulum Pendidikan Agama Islam Di Sekolah, Madrasah Dan Perguruan Tinggi*. Raja Grafindo Persada.
- Putra, R. A. (2022). Peran Orang Tua Sebagai Guru di Rumah pada Pembelajaran Daring di SD Negeri 024 Long Ikis Selama Pandemi Covid-19. *Pembelajaran Selama Pandemi Covid-19*, 41.
- Rahmawati, D. (2019). Evaluasi Kinerja Dinas Pendidikan Dalam Meningkatkan Kualitas Pendidikan Dasar Daerah Terpencil Di Tulungagung. *Konferensi Nasional Ilmu Administrasi*, 3(1).
- Rajagukguk, S. R., Tumanggor, S., Malau, J. G., & Turnip, H. (2023). Pentingnya Pemerhatian Sarana Dan Prasarana Bagi Pendidikan Disekolah Yang Terpencil. *Jurnal Pendidikan Sosial Dan Humaniora*, 2(1), 204–2015.
- Ramayulis. (2008). *Ilmu Pendidikan Islam*. Kalam Mulia.
- Salong, A. (2024). Inovasi Sosial dalam Peningkatan Akses Pendidikan Anak-anak di Daerah Terpencil (Kabupaten Seram Bagian Timur). *Jurnal Pengabdian Masyarakat*, 1(2), 190–195.
- Syafrin, Y., Kamal, M., Arifmiboy, A., & Husni, A. (2023). Pelaksanaan Pembelajaran Pendidikan Agama Islam. *Educativo: Jurnal Pendidikan*, 2(1), 72–77. <https://doi.org/10.56248/educativo.v2i1.111>
- Thana, P. M., & Hanipah, S. (2023). Kurikulum Merdeka: Transformasi Pendidikan SD Untuk Menghadapi Tantangan Abad ke-21. *Prosiding Konferensi Ilmiah Dasar*, 4, 281–288.
- Witasari, R. (2023). Belajar dan Pembelajaran dari perspektif Teori kognitif, behaviorisme Konstruktivisme dan sosiokultural. *BASICA Journal of Arts and Science in Primary Education*, 3(2), 257–268.
- Yuniar, F. (2014). *Profesionalisme Guru Pendidikan Agama Islam Pada Desa Terpencil Di Kecamatan Bintang Ara Kabupaten Tabalong*. Pascasarjana.