



Implementation Of Loose Parts-Based Learning To Enhance Student Engagement In Islamic Religious Education For Children Aged 5-6 Years

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ABSTRACT

This study aims to describe the implementation of loose parts-based learning in Islamic Religious Education (IRE) at school and to analyze improvements in student engagement in IRE learning following its application. Student engagement was examined through three dimensions: cognitive, affective, and psychomotor. The study employed a classroom action research design. The research subjects were children aged 5–6 years. Data were collected through observations, reflections, and learning documentation. The results indicate that in the initial condition, student engagement was relatively low due to the dominance of conventional teaching methods. The implementation of loose parts-based learning in Cycle I enhanced student engagement, though challenges related to learning focus and classroom management remained. Improvements made in Cycle II, through more structured activities and more effective classroom management, resulted in a significant and stable increase in student engagement across all dimensions. Students demonstrated better understanding, higher learning enthusiasm, and more active physical and social participation. These findings contribute to the Development of innovative pedagogical practices by demonstrating that loose parts constitute a practical approach to enhancing learning engagement and supporting meaningful learning in character and religious education.

INTRODUCTION

Islamic Religious Education (IRE) at an early age plays a vital role in shaping children's values, character, and spirituality. In character and moral formation, IRE can instill Islamic values such as honesty, discipline, politeness, and responsibility from an early age. These values are essential for shaping children's good character and morals (Cinantya, Suriansyah, Asniwati, & Aslamiah, 2019; Maksun et al., 2025). Religious education at an early age also aims to develop good character, namely good and noble behavior, which will have a positive impact on children's lives in the future (Fauziddin, Lestari, Mariana, et al., 2023). IRE focuses on developing children's spiritual intelligence by applying cognitive, emotional, and physical skills. This helps children to have a strong spiritual foundation that will support their Development at the next level of education (Rahman, Sauri, & Naim, 2012).

Although it plays a vital role, IRE in early childhood also faces several challenges that can affect the effectiveness of teaching and learning. The challenges encountered include a lack of variety in learning methods, as studies have found that many teachers still use traditional teaching methods that lack variety and are not suited to the needs of early childhood. This can lead to a lack of stimulation and student engagement in the learning process (Zulkifli et al., 2022). Student involvement in Islamic religious education can be defined as active participation in the teaching and learning process, which includes classroom activities such as discussing, asking questions, and contributing to learning (Tambak



& Sukenti, 2023) In addition, the integration of technology in IRE learning is still limited, even though there is excellent potential to increase student engagement through the use of digital tools and multimedia (Alahmadi, Meccawy, & Elhag, 2024).

The next issue that often arises is the dominance of teacher-centered learning, where teachers are the sole source of information and students are merely passive recipients. This approach does not encourage active student participation or interaction (Malik & Jumani, 2022). The central role of teachers in learning is so dominant that student involvement in IRE learning tends to be less prominent, as the learning becomes less interactive and less engaging. Less interactive, less interesting learning activities can lead to low student involvement. Young children need varied and engaging activities to maintain their attention (Zulkifli et al., 2022).

Student engagement in early childhood education (ECE) is a concept that encompasses cognitive, affective, and behavioral involvement that occurs in early childhood learning. First, cognitive involvement. Cognitive involvement refers to the active mental processes that children engage in while learning. Cognitive engagement includes attention, effort, and strategies used to understand and solve problems. Cognitive engagement is critical because it is directly related to academic achievement and the Development of critical thinking skills (Lam, Wong, Yang, & Liu, 2012; Lara, Miranda-Zapata, Saracostti, & De-Toro, 2025; Zhang & Kim, 2024). To enhance cognitive engagement, the roles of families and teachers are crucial, as they can encourage children to engage in cognitive activities.

Meanwhile, affective involvement involves children's feelings and emotions towards the learning process. Affective involvement includes interest, motivation, and positive attitudes towards learning activities. High affective involvement is often associated with enjoyable and satisfying learning experiences, which in turn can increase children's motivation and participation in learning activities (Archambault, Janosz, Goulet, Dupéré, & Gilbert-Blanchard, 2019; Lam et al., 2012; Lara et al., 2025). Emotional support from teachers, family, and peers is critical in building positive affective engagement. Behavioral engagement refers to children's physical actions and active participation in learning activities. Behavioral engagement includes attendance, participation in class activities, and compliance with rules. Good behavioral engagement can reduce behavioral problems and improve learning outcomes (Archambault et al., 2019; Fomina, Potanina, Bondarenko, & Morosanova, 2023). Teachers can increase behavioral engagement by creating a supportive learning environment and providing constructive feedback.

To increase student engagement in early childhood IRE learning, one approach is to implement loose parts-based learning. Loose parts-based learning is a pedagogical approach that emphasizes child-centered learning, fostering creativity, free exploration, and multisensory experiences. This method involves using open-ended materials, such as natural or recycled items, that children can manipulate and use in various ways. Loose parts-based learning has several advantages. One of its advantages is that it encourages children's creativity and exploration. The use of loose materials allows children to use their imagination and creativity to explore and create (Cankaya, Martin, & Haugen, 2025; Hoogslag & Boon, 2016; Hu, 2025). This type of game encourages divergent thinking and problem-solving skills (Cankaya et al., 2025; Cankaya et al., 2023). In addition, loose parts-based learning supports child-initiated learning, in which children independently explore scientific concepts and engage in problem-solving activities (Cankaya et al., 2023; Zeng & Ng, 2025). This autonomy in learning helps build confidence and fosters a deeper understanding of the material.

The loose parts approach, which involves using materials that can be manipulated and explored by children, is highly relevant to IRE. This approach can be used to understand the concepts of worship, morals, and stories of the Prophet through manipulative and exploratory activities—first, the Development of moral and religious values. The use of loose parts media can help introduce moral and religious values. For example, through activities involving the making of ships from loose parts, children can be introduced to the concept of God's creation and moral values such as patience and cooperation (Fikriyati, Katoningsih, & Hasan, 2023). In addition, loose parts can also be used to teach moral values and worship. For example, through manipulative activities, children can learn about the importance of worship and good moral values, which are the main objectives of Islamic religious education (Muhamad, Khalil, Basir, & Norasid, 2024; Noh, Katni, Hatoya, Nurjan, & Rohmadi, 2020).

The use of loose parts is particularly suitable for the kindergarten, as the school faces problems



that can be addressed with them. One problem at the school is low student participation in learning. The researcher's initial observations indicate that 45% of students tend to be passive during religious learning activities. They often listen without actively exploring or role-playing. Young children should learn actively, explore, and interact, but limitations in teaching methods mean that most students end up listening. Furthermore, teaching methods are still dominated by lectures and memorization. Teachers still use conventional methods such as lectures (60%) and memorization (30%), while methods such as play, exploration, and concrete materials are used only about 10% of the time. This causes children to get bored quickly, have difficulty understanding abstract concepts such as the Five Pillars of Faith and the Five Pillars of Islam, and lack meaningful learning experiences. The available teaching materials are also not very interesting.

This study will use loose parts media to increase 5- to 6-year-old children's involvement in IRE. This study offers something new because loose parts-based learning is generally used in STEAM, motor skills, and creativity, but has not been systematically applied in the context of IRE. This study is among the first to combine loose-parts exploratory activities with Islamic religious concepts in early childhood. Based on the previous explanation, this study aims to: 1) Describe the implementation of loose parts-based learning in IRE learning at Almadawdah Islamic Kindergarten; 2) Analyze the increase in student engagement in IRE learning after using the loose parts approach.

METHOD

This study is a classroom action research aimed at increasing student engagement in Islamic Religious Education through loose parts media. This research was conducted collaboratively between teachers and researchers. The subjects of this study were 15 children aged 5-6 years at TK IT Al-Mawaddah. The subjects in this study varied in their engagement in Islamic Religious Education (active vs. passive). The subjects also came from Islamic family backgrounds. They were already familiar with exploratory learning, but were not yet optimal when using loose parts media in Islamic Religious Education.

The instruments used in this study were observation, tests, interviews, and questionnaires. An observation was conducted to examine the children's involvement during learning. Meanwhile, tests were conducted to determine their understanding of IRE concepts. Interviews were conducted to gather teachers' and students' opinions on the use of loose parts media. Questionnaires were used to collect responses from parents or teachers during the learning process.

Table 1 is a grid for assessing children's involvement in Islamic Religious Education. The assessment indicators used are Not Involved (NI), Starting to Be Involved (SI), Involved as Expected (IE), and Very Well Involved (VWI). The assessment column lists three aspects: cognitive, affective, and psychomotor involvement. Each aspect also has more specific indicators, such as understanding concepts, showing joy, enthusiasm, and interest, and demonstrating activeness and participation.

Table 1. Children's Involvement Instrument Grid

No	Engagement Aspect	Indicators	NI	SI	IE	VWI
1	Cognitive	understanding concepts				
2	Affective	showing happiness, enthusiasm, and interest				
3	Psychomotor	showing activity and participation				

This classroom action research consisted of two cycles, each comprising four steps: planning, action, observation, and reflection. After one cycle, it could be continued until the research results were declared complete (Ansari & Sit, 2024). During the planning stage, researchers developed a learning plan related to the use of loose parts. The researcher also prepared loose parts, such as stones, wood, and cloth. In addition, the researcher prepared observation sheets and instruments to measure children's involvement in Islamic Religious Education. In the action stage, the researcher applied loose parts in Islamic Religious Education learning. Here, children engaged in direct exploration of loose parts, while the teacher facilitated discussion. During the observation stage, researchers observed children's participation in Islamic Religious Education. During the reflection stage, researchers analyzed the results



of observations and tests, identified obstacles, and made improvement plans. Meanwhile, in cycle 2, the stages were the same as in cycle 1, only with the addition of improvements made during cycle 1. The analysis in this study employed both qualitative and quantitative methods. Qualitative analysis involved reducing, presenting, and drawing conclusions from the data. Meanwhile, quantitative analysis was conducted by calculating the percentage of students involved in each aspect.

RESULTS AND DISCUSSION

Based on initial observations, during the pre-cycle or initial conditions before the implementation of the loose parts intervention, children's engagement showed a relatively low tendency across the cognitive, affective, and psychomotor dimensions. Cognitively, children had difficulty maintaining their focus on learning; they also appeared to get bored easily and rarely participated actively in discussion sessions. In the affective dimension, children also showed low enthusiasm for learning and tended to be passive, as lecture-based instruction still dominated. Meanwhile, in the psychomotor dimension, it was also found that children's involvement in learning activities was minimal. This was indicated by the children's easily distracted attention and limited interaction with teachers and peers. These results indicate that, before the intervention, the learning process was not yet encouraging optimal student involvement, so a more contextual and participatory learning approach is needed.

Table 2. The Results of Pre Cycle

No	Engagement Aspect	Indicators	NI	SI	IE	VWI
1	Cognitive	understanding concepts	✓			
2	Affective	showing happiness, enthusiasm, and interest	✓			
3	Psychomotor	showing activity and participation	✓			

In cycle 1, learning activities were designed by integrating core material in the form of the Five Pillars of Islam, the Six Articles of Faith, and daily prayers through the use of loose parts such as used bottles, bottle caps, stones, flannel, and various other simple materials. The planning of activities focused on increasing student engagement by encouraging concrete exploration and participatory learning activities. This intervention was implemented through group learning, with students engaging in play-based activities using loose parts, group discussions, and reflection on the outcomes. The assigned tasks included formulating the concepts of the Pillars of Faith and the Pillars of Islam, and matching daily prayers to the provided visual media. The activities in cycle 1 are shown in Figure 1.



Figure 1. The activity in the 1st cycle.

The results of cycle 1 observations showed an increase in children's involvement across all dimensions. Cognitively, children demonstrated a better understanding of the learning material and participated more actively in the learning process. From an affective perspective, children also appeared more enthusiastic and enjoyed learning activities that involved games and exploration. Meanwhile, in the psychomotor dimension, there was also an increase in interaction between children and in their confidence in expressing opinions during direct discussions. The results of the increase in children's



involvement in IRE learning in cycle 1 can be observed in Table 3 and Figure 2.

Table 3. Findings in Cycle 1

No	Engagement Aspects	Indicators	BT	MT	TSH	TSB
1	Cognitive	understanding concepts			✓	
2	Affective	showing happiness, enthusiasm, and interest			✓	
3	Psychomotor	showing activity and participation			✓	

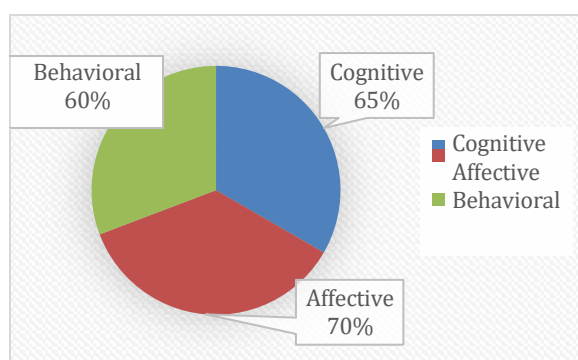


Figure 2. The Result Of 1st Cycle.

Reflection on the implementation of cycle 1 indicates that the use of loose parts successfully increased children's engagement and enthusiasm and encouraged active participation in learning. However, there were still several obstacles to the use of loose parts, such as some children becoming too absorbed in play, making classroom management difficult, and limitations in the effectiveness of time management. Therefore, the follow-up planned for the next cycle is to develop more structured activities, provide more precise instructions, and manage learning time more effectively to optimize the intervention's results.

In cycle 2, several improvements were made, including a more focused exploration of loose parts aligned with learning objectives, strengthened classroom management to maintain children's focus, and a more systematic evaluation of children's engagement. In the planning stage, learning materials focused on strengthening noble character in Islam, such as honesty, mutual assistance, and respect for parents and teachers. The learning strategy was refined through more structured loose parts labeled or symbolized, the strengthening of visual media through puppets and flannel cloth, and interactive simulations of good and bad behavior using stones, ice cream sticks, and wooden blocks. In addition, classroom management was improved by forming small groups, providing more precise instructions, and setting stricter time limits for activities.

Cycle 2 began with an opening activity that included a prayer together and an initial discussion about the children's experiences doing good deeds every day. Next, the teacher introduced the topic of noble character and how to use loose parts in learning activities. In the main activity, the children explored and simulated commendable behavior using loose parts. After that, there are group discussions, presentations of work results, and feedback between groups. Reflection activities are conducted through question-and-answer sessions that emphasize the application of noble character values in daily life. In the closing stage, the researcher and the children summarize the learning outcomes and strengthen the children's motivation to practice the noble character values that have been learned. The results of the activities in cycle 2 are shown in Figure 3.



Figure 3. The Activity In 2nd Cycle

The results of cycle II observations showed a significant increase in children's involvement across all dimensions. Cognitively, children appeared more focused and demonstrated a better understanding of the material. Affectively, the children's enthusiasm was high, and the moral values learned were easier to understand and remember. In the psychomotor dimension, children became more active and confident; social interaction among children also increased, and children who were previously apathetic began to show greater optimal involvement in learning activities. The results of cycle 2 can be seen in Table 4, Table 5, and Figure 4

Table 3. Findings in Cycle 2

No	Aspect of Involvement	Indicators	BT	MT	TSH	TSB
1	Cognitive	understanding concepts				✓
2	Affective	showing happiness, enthusiasm, and interest				✓
3	Psychomotor	showing activity and participation				✓

Table 4. Comparison Of Student Engagement In Cycle 1 and Cycle 2

Aspect	1 st Cycle	2 nd Cycle	Improvement
Cognitive	65%	85%	+30.77%
Affective	70%	90%	+28.57%
Behavioral	60%	88%	+46.67%

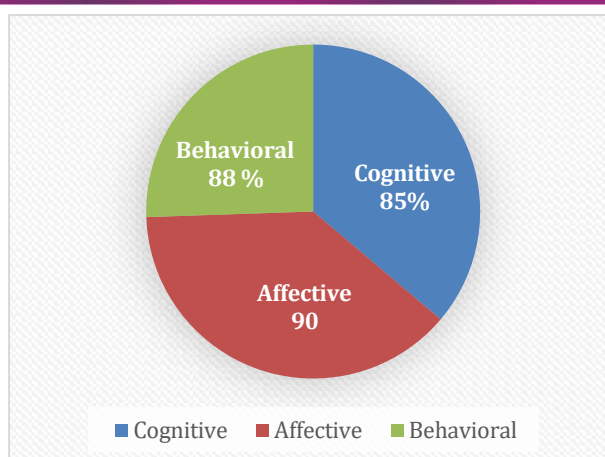


Figure 4. The Result of 2nd Cycle

The final reflection of Cycle 2 confirmed that loose parts-based learning interventions with improved strategies successfully increased student engagement significantly and supported more effective classroom management. In addition, there was an improvement in the quality of children's social interactions and a deeper understanding of the learning material. However, several challenges remained in providing loose parts interventions to increase children's engagement in IRE learning. For example, some children need additional assistance, there is a need for continuous Development of loose parts variations, and there is a need to expand the evaluation of children's engagement to the home environment. Planned follow-up actions include optimizing the use of loose parts for reflective learning, applying this method to other IRE learning materials, and training teachers to support broader and more sustainable implementation.

Changes in student engagement across cycles show gradual, systematic, and continuous improvement as loose parts-based learning is implemented and refined. At the beginning, student engagement remained low across all dimensions, characterized by a lack of focus and cognitive participation, low affective enthusiasm, and minimal behavioral engagement in the learning process. Learning dominated by lecture methods has not encouraged students to engage actively and meaningfully. In Cycle I, there was a significant initial change after the implementation of loose parts-based learning. Student engagement began to increase, primarily through concrete exploration activities and group work that encouraged active participation. Students showed a better understanding of the material, increased enthusiasm for learning, and the courage to interact and express their opinions. At this stage, loose parts successfully shifted learning from a teacher-centered to a student-centered approach. These findings align with the function of loose parts, which allow students to explore, experiment, and make their own decisions while playing. This encourages independence and responsibility for their own learning (A Spencer et al., 2019; Xavier, Morrison, & Sulz, 2025). The use of loose parts increases students' engagement and understanding through hands-on, practical learning (Xavier et al., 2025; Zeni, Schnellert, & Brussoni, 2025).

The increase in student engagement in the cognitive dimension is clearly evident in comparing the initial conditions, Cycle I, and Cycle II. In the initial conditions, student cognitive engagement remained relatively low, characterized by difficulty maintaining attention, boredom, and minimal participation in question-and-answer activities. Students tended to play the role of passive recipients of information, which prevented their conceptual understanding of the material from developing optimally. Entering Cycle I, the application of loose parts-based learning began to encourage more active cognitive engagement among students. Through concrete exploration activities, the Development of the concepts of the Five Pillars of Faith and the Five Pillars of Islam, and the matching of material with visual media, students were directly involved in the process of observing, grouping, and connecting concepts. A more significant improvement occurred in Cycle II after the learning strategy was revised. Exploration activities were designed to be more focused and aligned with learning objectives, supported by the use



of more structured loose parts and more precise instructions. The increase in cognitive engagement resulting from the loose parts media intervention was consistent with the findings. Cankaya et al. (2025) found a positive relationship between the use of loose parts in play and children's cognitive Development, including academic skills. This occurs because loose parts function in relation to executive function, self-regulation, reasoning, and problem solving (Cankaya et al., 2023). Loose parts play allows children to combine different types of games and materials, thereby strengthening their cognitive skills.

Then, the increase in student engagement in the affective dimension was clearly evident through changes in students' attitudes, interests, and emotional responses to the learning process in each cycle. At the beginning, students' affective engagement remained low, as indicated by their lack of enthusiasm, a passive attitude during learning, and limited emotional involvement due to the dominance of the lecture method. In Cycle I, the application of loose parts-based learning began to elicit more positive affective responses. Students showed increased enthusiasm and enjoyment during learning activities and began to enjoy the learning process, which provided space for expression and interaction. A more substantial and stable increase in affective engagement was observed in Cycle II after improvements to the learning design. The use of more structured loose parts, visual reinforcement through puppets and flannel cloth, and simulations of commendable and less commendable behavior helped students build a deeper emotional connection with the learning material. These results align with findings indicating that their social Development is characterized by more cooperative play and better social interaction (Branje, Stevens, Hobson, Kirk, & Stone, 2021; Caldwell et al., 2023; Houser et al., 2019). This increase in affectivity is also associated with greater happiness at school and greater satisfaction with the school environment (Gibson, Cornell, & Gill, 2017; Lee et al., 2020).

Finally, the increase in student engagement in the psychomotor dimension was reflected in a noticeable change in students' physical involvement in learning activities, which included manipulating media, participating in group activities, and expressing actions during the learning process. At the beginning, students' psychomotor involvement was still minimal, characterized by limited meaningful physical activity and a tendency to sit and listen. In Cycle I, the application of loose parts-based learning significantly increased students' psychomotor involvement. Students were actively involved in manipulating various materials such as bottles, bottle caps, stones, and flannel cloth to compile the concepts of the Five Pillars of Faith and the Five Pillars of Islam and match the material with visual media. These activities encouraged movement coordination, fine motor skills, and more intense physical involvement. A more optimal increase in psychomotor involvement was observed in Cycle II after improvements to the learning strategy. Manipulative activities were designed to be more structured and to simulate commendable and less commendable behavior using loose parts such as stones, ice cream sticks, and wooden blocks. Students were not only physically active but also able to express their understanding of moral values through movement, demonstration, and social simulation. This psychomotor involvement was more evenly distributed, including among students who had previously been passive, and was supported by more effective classroom management.

These findings are consistent with those from the Physical Literacy in the Early Years (PLEY) project in Nova Scotia, which found that children involved in outdoor loose parts play showed significant increases in physical activity after 3 and 6 months of intervention (Caldwell et al., 2023; Houser et al., 2019). In addition, loose parts interventions also contribute to broader psychomotor skill Development, including coordination, balance, and fine motor skills. For example, another study showed that structured recreational play can improve psychomotor skills such as coordination and balance by up to 30% and 28%, respectively (Terrazzo-Luna et al., 2024)

CONCLUSION

Based on the results of the research and discussion described above, the application of loose parts-based learning has proven effective in comprehensively improving student engagement in the cognitive, affective, and psychomotor dimensions. At the beginning of the study, student engagement was still low due to a learning approach dominated by conventional methods, leading students to be passive, unfocused, and to have minimal interaction. The intervention's implementation in Cycle I showed an initial increase in student engagement through concrete exploration activities and group work. However,



its effectiveness was still constrained by classroom management and learning focus constraints. After improving the strategy in Cycle II, loose parts-based learning that was more structured, focused, and supported by effective classroom management was able to produce a more significant and stable increase in student engagement. Students not only demonstrated a better understanding of the material but also high enthusiasm for learning, positive emotional involvement, and more active physical and social participation, including among students who had previously been passive. Overall, the findings of this study confirm that loose parts-based learning can be an innovative and relevant pedagogical approach in Islamic Religious Education, particularly in bridging abstract concepts and values through concrete, meaningful, and enjoyable learning experiences. This approach not only increases student engagement during the learning process but also has the potential to support the internalization of Islamic values and the continuous Development of student character.

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