

Implementation of Active Learning Methods Based on Project-Based Learning to Improve Students' Collaborative and Critical Thinking Skills in Islamic Education at SMK Muhammadiyah 06 Medan

Implementasi Metode Pembelajaran Aktif Berbasis Project Based Learning untuk Meningkatkan Keterampilan Kolaboratif dan Berpikir Kritis Siswa pada Mata Pelajaran Pendidikan Agama Islam di SMK Muhammadiyah 06 Medan

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan implementasi model pembelajaran aktif berbasis Project Based Learning (PjBL) dalam meningkatkan keterampilan kolaboratif dan berpikir kritis siswa pada mata pelajaran Pendidikan Agama Islam (PAI) di SMK Muhammadiyah 06 Medan. Latar belakang penelitian ini adalah perlunya inovasi pembelajaran PAI agar lebih relevan dengan kebutuhan zaman, sekaligus mampu menginternalisasi nilai-nilai Islami dalam proses belajar mengajar. Metode penelitian yang digunakan adalah penelitian kualitatif dengan pendekatan deskriptif. Data dikumpulkan melalui observasi kegiatan pembelajaran, wawancara dengan guru PAI dan siswa, serta dokumentasi hasil proyek yang dikerjakan siswa. Hasil penelitian menunjukkan bahwa penerapan PjBL mampu meningkatkan keterampilan kolaboratif siswa, yang terlihat dari kemampuan mereka dalam berdiskusi, berbagi peran, menghargai perbedaan pendapat, dan bertanggung jawab terhadap tugas kelompok. Selain itu, keterampilan berpikir kritis siswa berkembang melalui kemampuan mengidentifikasi masalah, menyusun argumen logis, serta menghubungkan materi PAI dengan fenomena kehidupan nyata. Implementasi PjBL juga berhasil menumbuhkan nilai-nilai Islami seperti amanah, shidq, adil, dan ukhuwah dalam aktivitas proyek. Kendala utama yang dihadapi adalah keterbatasan waktu dan fasilitas, serta tingkat keterlibatan siswa yang bervariasi. Meskipun demikian, strategi ini dinilai efektif dalam menciptakan pembelajaran yang bermakna, kontekstual, dan berorientasi pada pembentukan karakter Islami siswa.

ABSTRACT

This study aims to describe the implementation of an active learning model based on Project Based Learning (PjBL) in improving students' collaborative and critical thinking skills in Islamic Religious Education (PAI) at SMK Muhammadiyah 06 Medan. The background of this study is the need for innovation in PAI learning to be more relevant to the needs of the times, while also being able to internalize Islamic values in the teaching and learning process. The research method used is qualitative research with a descriptive approach. Data were collected through observations of learning activities, interviews with PAI teachers and students, and documentation of the results of projects worked on by students. The results show that the implementation of PjBL is able to improve students' collaborative skills, as seen from their abilities in discussions, sharing roles, respecting differences of opinion, and being responsible for group assignments. In addition, students' critical thinking skills develop through the ability to identify problems, construct logical arguments, and connect PAI material with real-life phenomena. The implementation of PjBL also successfully fosters Islamic values such as amanah, shidq, adil, and ukhuwah in project activities. The main obstacles faced are limited time and facilities, as well as varying levels of student involvement. However, this strategy is considered effective in

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creating meaningful, contextual learning that is oriented towards the formation of students' Islamic character.

1. INTRODUCTION

Collaborative learning plays a crucial role in improving the quality of Islamic Religious Education (PAI). Through discussions, group work, and collaborative projects, students not only broaden their religious knowledge but also develop social skills, leadership attitudes, and the ability to work together in line with Islamic values. Active student participation in sharing religious perspectives and experiences fosters a holistic learning environment, supports the formation of good character, and strengthens their spiritual and moral understanding. Moreover, strengthening formative evaluation in PAI learning is also essential. Providing continuous feedback not only helps students deepen their understanding of religious material but also fosters motivation to actively participate in the learning process. Thus, religious education is not limited to the delivery of knowledge but also involves the internalization of values and the practice of Islamic teachings. By applying these innovative learning strategies, Islamic Religious Education can develop into a more dynamic system, relevant to contemporary needs, while remaining grounded in its primary goal: shaping students with Islamic character, noble morals, and strong spirituality (Syafa & Mukhrij Sidqy, 2024).

Education holds a pivotal role in shaping the quality of a nation's human resources. Amid globalization, with its challenges and rapid changes, critical thinking skills have become essential competencies that every individual must possess. These skills are not only useful for addressing everyday life problems but also serve as capital for optimizing personal potential, both in the workplace and in social life. Modern education emphasizes the importance of developing critical thinking as an integral part of the teaching and learning process. This explains why various learning models and strategies continue to be designed and implemented to enable students to sharpen these skills at all levels of education, including at SMK Muhammadiyah 06 Medan. One approach considered effective in improving critical thinking is Project-Based Learning (PjBL). Through this method, students are encouraged to directly engage in completing project-based tasks relevant to their real-life experiences. PjBL requires students to think analytically, identify problems, formulate solutions, and apply acquired knowledge in contextual situations. In addition, PjBL emphasizes the importance of collaboration. In practice, students learn to work in groups, share ideas, and enhance communication skills. Thus, this method not only improves critical thinking but also strengthens collaboration and social interaction that support the learning of Islamic Religious Education as well as other subjects (Musa'ad et al., 2024).

On the other hand, learning interest plays an important role in the success of innovative learning methods. The teaching and learning process can run effectively if students are intrinsically motivated and interested in learning. Such interest drives students to be active, creative, and fully engaged in every learning activity. Therefore, modern learning strategies focus not only on teaching methods but also on fostering students' motivation and learning interest to ensure the learning process runs optimally (Murniati, 2021).

2. METHOD

This study employs a qualitative approach with a descriptive research design. This approach was chosen because the research focuses on providing an in-depth description of how Project-Based Learning (PjBL) is implemented in the Islamic Religious Education (PAI) subject at SMK S Muhammadiyah 06 Medan, as well as its impact on students' collaborative skills and critical thinking abilities.

The qualitative method is considered relevant because it allows the researcher to understand phenomena holistically—not only by measuring learning outcomes but also by examining the learning processes taking place in the classroom. The research subjects consist of Islamic Religious Education teachers, who are directly involved in designing and implementing project-based learning, as well as tenth-grade students, who actively participate in the project activities. The selection of subjects was carried out purposively, by considering those who were deemed most capable of providing the necessary data for the research.

3. RESULT AND DISCUSSION

Project-Based Learning (PjBL) in Islamic Religious Education (PAI) is an approach that not only emphasizes mastery of the material but also provides real-life experiences that internalize Islamic values within students. PjBL creates opportunities for students to learn through active engagement, collaboration, and creative problem-solving. This aligns with the objectives of Islamic education (*tarbiyah*), which go beyond intellectual intelligence to include the cultivation of character, manners, and spiritual sensitivity. When students are assigned real-life projects—for example, in learning about *zakat* and *sadaqah*—they not only understand Qur’anic and Hadith injunctions but also put them into practice through social actions such as fundraising or charitable activities. Through these experiences, students develop social awareness, a sense of responsibility, and the practice of generosity in daily life. PjBL also reflects the epistemology of Islamic education, which emphasizes the unity of knowledge and action. In Islamic tradition, knowledge without practice is considered useless, making the concept of *‘ilm an-nafi’* (beneficial knowledge) highly relevant. Through projects, students not only understand PAI conceptually but also apply it in real actions. For instance, when studying ethics in social media, students do not merely discuss prohibitions against gossip (*ghibah*) or slander but also design digital campaigns promoting Islamic communication ethics. This demonstrates that PjBL effectively connects knowledge, skills, and attitudes in line with the mission of Islamic education—to produce individuals who are knowledgeable, practicing, and morally upright (Safitri et al., 2025).

Findings from research at SMK Muhammadiyah 06 Medan reinforce this explanation. The implementation of PjBL has been proven to enhance students’ collaborative and critical thinking skills in PAI learning. In terms of collaboration, students demonstrated the ability to engage in discussions, distribute tasks, respect differing opinions, and take responsibility for group work. These activities reflect the practice of *musyawarah* (deliberation) and *ukhuwah* (brotherhood) in Islam. Meanwhile, in critical thinking, students showed the ability to articulate opinions, construct logical arguments, and connect PAI content with real-life phenomena (Safitri et al., 2025). Furthermore, students were able to produce innovative projects in the form of digital presentations, educational videos, or Islamic brochures promoting good deeds, thereby developing their communication and creativity skills. The integration of Islamic values in project activities emerged as a significant finding in this study. The value of *amanah* (trustworthiness) was reflected in students’ commitment to tasks, *sidq* (honesty) in the presentation of results, *‘adl* (justice) in fair distribution of roles, and *ukhuwah* in mutual respect among group members. Thus, PjBL in PAI not only fosters 21st-century skills but also strengthens Islamic character essential to students’ personality development (Rofiq, 2019).

Nevertheless, the implementation of PjBL is not without challenges. Limited time is a major obstacle, as projects require extended duration to be completed effectively. School facilities and media are also restricted, sometimes resulting in projects being carried out in simple ways. Moreover, teachers are required to provide clear and balanced guidance to ensure active participation from all students, considering varying levels of involvement. However, these limitations do not diminish the effectiveness of PjBL but rather serve as important notes for refining future learning strategies. Overall, PjBL has been shown not only to improve collaborative and critical thinking skills but also to shape Islamic character and increase learning motivation. Students feel more enthusiastic and responsible because they are directly involved in authentic, contextual learning experiences relevant to contemporary needs. The integration of modern pedagogical approaches with Islamic values makes PjBL a comprehensive, relevant, and meaningful strategy in Islamic Religious Education (Muhammad Fadi et al., 2025).

Problem-Based Learning (PBL) is another model that can train students’ thinking skills. In this model, students do not merely listen to teachers’ explanations but are trained to be active and think critically about problems that arise during learning. Sanjay explains that PBL is characterized by (1) a series of learning activities, (2) activities directed toward problem-solving, and (3) problem-solving conducted using a scientific thinking approach. Essentially, Project-Based Learning (PjBL) can be applied across various subjects, including PAI, since this field frequently raises issues relevant to contemporary developments. Through its emphasis on practical application, PjBL encourages students to think critically, sharpen problem-solving skills, and gain meaningful learning experiences. However, Islamic education today faces several challenges. First, reform efforts in Islamic education remain limited and often lag behind rapid social, political, and scientific- technological changes. Second, Islamic education practices still heavily rely on traditional legacies, with little innovation or creative responses to contemporary issues. Third, the approaches used tend to be intellectualistic and verbalistic, leaving limited room for humanistic educational

interaction between teachers and students. Fourth, the orientation of Islamic education has not fully integrated knowledge, skills, and character development in a balanced way (Salma et al., 2025).

At SMK Muhammadiyah 06 Medan, teachers' main focus is to guide the project process—from facilitating discussions and supporting brainstorming sessions to providing constructive feedback. Students are encouraged to seek references independently, while teachers act as facilitators who direct them toward credible sources of information. In problem-solving contexts, teachers serve as mentors who do not provide direct answers but instead pose guiding questions that train students to think critically (Salma et al., 2025). One teacher at SMK Muhammadiyah 06 Medan stated: "The implementation of Project-Based Learning (PjBL) greatly helps in shaping students' character. In terms of independence, students become accustomed to seeking information, preparing plans, and completing tasks without depending entirely on teachers. In collaboration, they learn to share roles, engage in discussions, and respect peers' opinions when completing group projects. As for critical thinking, PjBL requires them to analyze problems, formulate solutions, and relate PAI material to real-life situations they encounter."

The implementation of Project-Based Learning (PjBL) in Islamic Religious Education (PAI) has been proven effective in enhancing students' critical thinking skills. Research by Musa'ad et al. (2024) shows that integrating PjBL with Islamic values significantly improved critical thinking scores in the experimental group compared to the control group, while also enhancing motivation and ethical character. Similarly, Arianty et al. (2025) argue that PjBL not only increases student engagement but also develops their ability to analyze, evaluate, and construct arguments based on Islamic values, as well as to engage in collaborative discussions for creative problem-solving. From the collaborative perspective, students became more skilled at teamwork, respecting opinions, and sharing responsibilities in completing group tasks. Meanwhile, critical thinking was evident in their ability to identify problems, formulate questions, and relate PAI content to real-life contexts. These findings demonstrate that PjBL encourages students not only to understand theory but also to develop analytical and reflective thinking (Fika Rahayu Astuti et al., 2024).

4. CONCLUSION

The implementation of the active learning method based on Project-Based Learning (PjBL) in the Islamic Religious Education (PAI) subject at SMK Muhammadiyah 06 Medan has been proven to optimize students' collaborative and critical thinking skills. Through contextually designed projects, students not only learn to understand theoretical material but also connect it with real-life situations.

In terms of collaboration, students demonstrate the ability to work together, distribute tasks fairly, engage in discussions, respect differing opinions, and take responsibility for group assignments. These practices reflect the values of *ukhuwah* (brotherhood) and *musyawarah* (deliberation), which are essential in Islamic teachings. Meanwhile, in terms of critical thinking, students are trained to identify problems, construct logical arguments, and formulate creative solutions relevant to PAI content. This process makes them more active, analytical, and reflective in understanding both religious and social issues.

Beyond fostering 21st-century skills, the application of PjBL also successfully instills Islamic values such as *amanah* (trustworthiness), *shidq* (honesty), *'adl* (justice), and *ukhuwah* (solidarity). These values are evident in students' commitment to completing projects, their honesty in presenting results, the fair distribution of roles, and their respectful attitudes within groups.

Although challenges such as limited time, facilities, and varied levels of student participation remain, PjBL has proven effective as a learning strategy. It creates a meaningful, contextual, and character-oriented learning atmosphere. Therefore, PjBL can be recommended as an alternative instructional model that not only enhances the quality of Islamic Religious Education but also prepares students to face global challenges while remaining grounded in Islamic values.

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