An Analysys of the Impact of Project-Based Learning on Students' Creative Thinking in Islamic Education Classrooms

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Abstract

This research focuses on determining the effectiveness of PjBL (Project-Based Learning) for improving the creative thinking skills of students in Islamic Religious Education at SMP Negeri 1 Indramayu. This research used a quasi-experimental method with a pretest-posttest control group design on a sample of 25 grade eight students. This research used an experimental method with a group pre-test and post-test design. The subjects of this research were students of class VIII E, which amounted to 25 students. The techniques used to gather the data are tests, questionnaires and documentations. The test data were analysed using a paired sample t-test and n-gain test within IBM SPSS Statistics software version 26. The result of this research shows that the application of project-based learning approaches in improving the creative thinking skills of students in SMP Negeri 1 Indramayu is quite good, as shown by the calculation of students' response questionnaire scores with a percentage of 83.00%. The N-gain test shows an increase in students' creative thinking skills after being given a project-based learning model with an N-gain value of 0.59 in the medium category. Supporting factors for the implementation of project-based learning are the role of the teacher, facilities and infrastructure, and students' interest in learning. On the other hand, the inhibiting factors of project-based learning are relatively high costs, relatively long time and passive students. The implications of this research highlight the need for curriculum designers and educators in Islamic schools to adopt more innovative, student-centred learning models that support the development of essential 21st-century competencies.

Keywords: *Project-Based Learning, Creative Thinking Skills, Islamic Religious Education, Junior High School.*

Introduction

Islamic education at the Junior High School level is strategically important in terms of building students' character and competence in the scope of religious knowledge and the development of critical thinking skills.[1] However, Islamic Education learning is often still dominated by conventional approaches that emphasise memorisation and doctrinal understanding.[2] This strategy tends to underdevelop students' creative thinking skills, even though creativity is one of the essential competencies now.[3]

One of the essential objectives of Islamic Religious Education Learning in Junior High School is to equip students with the skills needed to cope with professional shifts.[4] This learning prepares them to live out the tenets of their religion and ethics in daily interactions. The lessons aim at training students to think critically and creatively.[5] This view is also shared by authors Zat'kova and Polacek who argue that professional expertise and skills serve only as a basis for achieving success in social life.[6] While knowledge and experience are important, they lack enduring impact when not coupled with a few skills.[7] Skills taught through non-traditional methods enhance motivation and class participation.[8] Such approaches emphasize the self-directed work of learners, who transform from passive knowledge recipients (through listening, reading, or watching) into active seekers of information and to independent agents responsible for their education.[9]

This research is highly relevant in the scope of Islamic education in Indonesia today.[10] One, there is a specific challenge in Islamic education, which is to prepare a practical Muslimah generation with the ability to keep pace with the times and developments without shedding Islamic teachings.[11] Based on the Ministry of Education and Culture records, the national average score

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[1] Ahmad Aseery, "Enhancing Learners' Motivation and Engagement in Religious Education Classes at Elementary Levels," *British Journal of Religious Education* 46, no. 1 (January 2, 2024): 43–58, https://doi.org/10.1080/01416200.2023.2256487.

[2] Fitri Rahmawati, "The Tendency of Shifting Islamic Religious Education in Indonesia in the Era of Disruption," *Tadris* 13, no. 245–257 (2018).

[3] Linda Rupita and Eneng Muslihah, "Implementation of the Ummi Method in Learning the Qur'an," *Geneology of Islamic Religious Education: Journal of Islamic Religious Education* 5, no. 2 (2019): 111–16.

[4] Samreen Batool, Hazril Izwar Ibrahim, and Ahmad Adeel, "How Responsible Leadership Pays off: Role of Organizational Identification and Organizational Culture for Creative Idea Sharing," *Sustainable Technology and Entrepreneurship* 3, no. 2 (2024): 100057, https://doi.org/10.1016/j.stae.2023.100057.

[5] Abdul Haris Maulana et al., "The Exemplary Behavior of Kyai in the Formation of Social Morals of Students of As-Sanusi Babakan Ciwaringin Islamic Boarding School, Cirebon Regency," *Atthulab: Islamic Religion Teaching and Learning Journal* 6, no. 1 (July 13, 2021): 103–19, https://doi.org/10.15575/ath.v6i1.9682.

[6] Ali Miftakhu Rosyad et al., "Implementation of Independent Learning Curriculum in Vocational High Schools," *Scientific Periodical of Education* 4, no. 3 SE-Articles (November 30, 2024): 712–23, https://doi.org/10.51214/bip.v4i3.1255.

[7] Daim Maulana and Muhammad Nabil, "Character Formation System Through Parenting Patterns of Students at Al-Alif Islamic Boarding School, Tunjungan, Blora," *Jurnal Al Mu'allim: Journal of Islamic Education* 1, no. 1 (July 2022): 34–48.

[8] Virginia S Lee, *Teaching and Learning through Inquiry: A Guidebook for Institutions and Instructors* (Taylor & Francis, 2023).

[9] Nan Zhao et al., "Guiding Teaching Strategies with the Education Platform during the COVID-19 Epidemic: Taking Guiyang No. 1 Middle School Teaching Practice as an Example," *Sci Insigt Edu Front* 5, no. 2 (2020): 531–39.

[10] Maulana and Nabil, "Sistem Pembentukan Karakter Melalui Pola Asuh Santri Di Pondok Pesantren Al-Alif Tunjungan Blora."

[11] Iwan Kurniawan, Eneng Muslihah, and Encep Syarifudin, "Kyai's Leadership Model In Islamic Educational Institutions Pondok Pesantren: A Literature Study," *International Journal Of Graduate Of Islamic Education* 3 (2022): 302.

for Islamic Religious Education is at 78.5, but the score for high-level thinking skills is only 65.3.[12] Two, this study attempts to resolve the disparity in the application of religious knowledge through practical approaches.[13] Three, as cited in Ashrohah's work, the incorporation of creative thinking into Islamic Religious Education has the potential to give rise to a more relevant and contextualized understanding of Islam in relation to global issues which gives it greater relevance and context.[14]

The implementation of PjBL is not without challenges. Several previous studies have shown that the success of PjBL is highly dependent on various factors, including teacher readiness, availability of resources, and support from the school and family environment.[15] Teachers have a central role in implementing PjBL, because they must be able to design projects that are in accordance with the curriculum, facilitate the learning process, and provide appropriate guidance and evaluation to students.[16] Teachers' readiness to implement PjBL is often an obstacle, especially if they are not familiar with this approach or do not have adequate training. In addition, the resources needed to support PjBL, such as equipment, materials, and access to information, are also factors that determine the success of this method.[17]

It is also found the results of other studies, that to be implemented PjBL in the Islamic education, not only are the principles and values of Islam must be considered by it. Honesty, industriousness, responsibility, cooperation, must all be part of every student project.[18] 1 Introduction PjBL is not only directed to enhancing students' critical thinking abilities but also cultivating their characters based on Islamic teachings. Thus, the projects developed in PjBL in some schools should show these cores values, so that students do not only learn from a cognitive perspective, but also from an affective and spiritual perspective.[19]

According to the preliminary study conducted at SMP Negeri 1 Indramayu, the initial study indicates that PjBL, or Project-based learning, has been carried out in the realm of education in a variety of applications, from elementary school to higher education, and different subjects. The study indicated that PjBL is useful for overall improvement of student motivation, deeper conceptual understanding, and enrichment of 21st century skills of critical thinking, collaboration, and communication. In SMP N 1 Indramayu, PjBL could be effective in developing the process of

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[12] Fajrun Najah Ahmad, Mispani Mispani, and Muhammad Yusuf, "Integrasi Kurikulum Pendidikan Islam Pondok Pesantren Dan SMA," *Assyfa Journal of Islamic Studies* 1, no. 1 (July 22, 2023): 73–86, https://doi.org/10.61650/ajis.v1i1.164.

[13] Ghufron Fajriz Shodikin, Achmad Fawaid, and Lukman Sholeh, "An Analysis of Kyai's Charisma and Leadership in The Marketing of Islamic Boarding School Institutions," *Edukatif: Jurnal Ilmu Pendidikan* 5, no. 1 (2023): 642–50, https://doi.org/10.31004/edukatif.v5i1.4629.

[14] Siti Maryam Munjiat, Umihani Umihani, and Mahbub Nuryadien, "Integration of Salafiyah Values and Modern Entrepreneurship at the Kebon Cinta Entrepreneurial Islamic Boarding School," *INCARE, International Journal of Educational Resources* 5, no. 4 (December 22, 2024): 410–22, https://doi.org/10.59689/incare.v5i4.1064.

[15] Siti Maryam Munjiat and Lilis Indriani, "Analysis of Distance Education Students' Learning Satisfaction Factors: A Study in Higher Education," *Indonesian Journal of Cyber Education* 1, no. 1 (2023): 54–67.

[16] M Fachdir Saputra et al., "The Values of Islamic Education Philosophy" Customs and Law, Law and Law of the Book of Allah" in Kampung Sakti Rantau Batuah," *QALAMUNA: Journal of Education, Social, and Religion* 15, no. 1 (2023): 559–72.

[17] Dimitra Kokotsaki, Victoria Menzies, and Andy Wiggins, "Project-Based Learning: A Review of the Literature," *Improving Schools* 19, no. 3 (2016): 267–77.

[18] Abas Asyafah, "Research Based Instruction in the Teaching of Islamic Education," *SpringerPlus* 3, no. 1 (2014): 1–5, https://doi.org/10.1186/2193-1801-3-755.

[19] Siti Maryam Munjiat et al., "Improving Academic Achievement for Islamic Religious Education Students through Lecturer Competence and Digital Learning Media," *Intelektual: Journal of Education and Islamic Studies* 13, no. 2 (2023): 177–92.

critical thinking skills in students, especially in subjects that require deeper thinking, such as Islamic Religious Education, Islamic Cultural History, and Arabic.

Research conducted by Saad reinforces this since it strongly indicates that there are numerous challenges in the implementation of PjBL despite its many merits. One of the main challenges is teacher readiness. Teachers must have a solid understanding of PjBL concepts and practices, along with the ability to design and manage projects that are engaging and challenging for their students. [20] Training and professional development needs to be well developed so that teachers will be equipped to effectively implement PjBL. [21]

Although there is some research on project-based learning and creativity development in general educational contexts, there is a significant research gap in the context of Islamic Religious Education learning. Hidayat & Syafe'i highlighted that the majority of research on innovation in Islamic Religious Education learning still focuses on cognitive and affective aspects, but pays little attention to the development of creative thinking skills. [22]Meanwhile, Suyadi et al. identified that of the 67 studies on Islamic Religious Education learning published in Scopus-indexed journals over the past five years, only 8% examined the application of constructivist learning models such as PjBL, and only 3% specifically examined the development of creativity in the context of Islamic Religious Education. [23]Asnawi also found limited literature explaining the detailed mechanisms of how PjBL can be implemented effectively in Islamic Religious Education learning.[24] Most previous studies have only looked at the impact of PjBL on cognitive learning outcomes or learning motivation, but have not comprehensively analyzed its influence on creative thinking skills in the context of religious material.[25]

This study has multiple novelties contributing to the development of Islamic education, based on multiple previous research findings. First, this study has developed a PjBL implementation framework specifically for the meaning of Islamic Religious Education learning through the consideration of the characteristics of religious materials and the objectives of Islamic education. The framework synthesizes the fundamental characteristics of PjBL and contemporary Islamic education principles. Second, this study has developed a creative thinking skill measurement instrument that contextualizes the PjBL learning activities in the direction of Islamic Religious Education material, which is uncommon in the literature. This instrument develops a creative thinking framework and contextualizes with Islamic content, so that it measures creativity more valid in its creative direction with religious education. Third, this study provides a novel paradigm of creativity within the context of Islamic values which exists in the dispelling of the dichotomy between the values of traditional Islam's relevance, and 21st century skills. As further

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[20] Aslina Saad and Suhaila Zainudin, "A Review of Project-Based Learning (PBL) and Computational Thinking (CT) in Teaching and Learning," *Learning and Motivation* 78 (2022): 101802.

[21] Uun Unariah and Siti Maryam Munjiat, "The Effect of a Scientific Approach on Motivation to Learn Morals at MA Salafiyah," *Syaikhuna: Jurnal Pendidikan Dan Pranata Islam* 14, no. 02 (2023): 234–47.

[22] Tatang Hidayat and Makhmud Syafe'i, "The Role of Teachers in Realizing the Learning Objectives of Islamic Religious Education in Schools," *Rayah Al-Islam* 2, no. 01 (2018): 101–11.

[23] Suyadi Suyadi, "Type Developing an Islamic Education Curriculum on Outcomes-Based Education as a Defensive Strategy Facing the Challenges of Industry Revolution 4.0," *International Journal of Education and Learning* 4, no. 1 (2022): 41–57.

[24] Moh Asnawi, "The Position and Duties of Educators in Islamic Education," *Tribakti: Journal of Islamic Thought* 23, no. 2 (2012).

[25] Farah Ahmed and Safaruk Chowdhury, "Rethinking Contemporary Schooling in Muslim Contexts: An Islamic Conceptual Framework for Reconstructing K-12 Education," *Educational Philosophy and Theory* 57, no. 2 (2025): 152–65.

articulated by Asy'arie, creativity is an Islamic definition not only related to creating new ideas, but offers the capacity of exploring wisdom, and developing contextualized understanding of the teachings of Islam.

This research will investigate; 1) the differences of creative thinking skills of students who learn using project-based learning and students that learn using conventional learning in the Islamic Religious Education subjects in SMP Negeri 2 Indramayu, 2) the effectiveness of project-based learning on improving students' creative thinking skills after analyzing four dimensions of creative thinking, i.e. fluency, flexibility, originality, and elaboration, 3) the characteristics of religious projects that are effective in improving students' creative thinking in Islamic Religious Education subjects, and 4) the views of students and teachers on the implementation of project-based learning in Islamic Religious Education subjects and its effects on the understanding and practice of Islamic values.

Method

This study is an experimental research method with a one group pretest posttest design type, this method of research has a pretest before treatment, so that the treatment can be known more accurately because it can compare the condition before being given treatment with the condition after being given treatment.[26]

The population in this study were all students of class VIII of SMP Negeri Indramayu Regency with the number of class VIII consisting of 5 classes, the number of male students 53 students, the number of female students 68 students, the average number of students in each class is 25 people. So the total number of class VIII students is 121 students. The class that is used as the research sample is class VIII E which consists of 25 students. Sampling was conducted by purposive sampling technique, which is a sampling determination technique with certain considerations. The data collection techniques that were carried out were creative thinking ability tests, questionnaires and documentation. The creative thinking ability test data were analyzed using the Paired Sample T-test statistical test with a significance level of $\alpha = 0.05$.

Results and Discussion

Data Description Results Pretest and Posttest Ability Creative Thinking iswa

The data finding in this study show that the creative thinking abilities of students who are taught using the *Project Based Learning* (PjBL) learning model in the subject lesson Education Religion Islam And Budi Character in get by analyzing test beginning *(pretest)* And test end *(posttest)*. Results from ability acquisition think creative student can seen on table 1 in lower This:

Table 1. Data Results Pretest And Posttest Ability Thinking Creative Student

Statistics	Statistical Values	
	Pretest	Post Test
Number of Samples	25	25
The highest score	65	90
Lowest Value	25	60
Average value	45.4	77.4
Standard Deviation	10.6	8.3

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[26] Sugiyono, *Metode Penelitian Kuantitatif* (Bandung: Alfabeta, 2018).

Based on on table 1 above capabilities think creative students who taught with model learning *Project-Bassed Learning* (PjBL) shows that the average *posttest result* is higher compared to mark *pretest*. As for comparison can seen on the graph below:
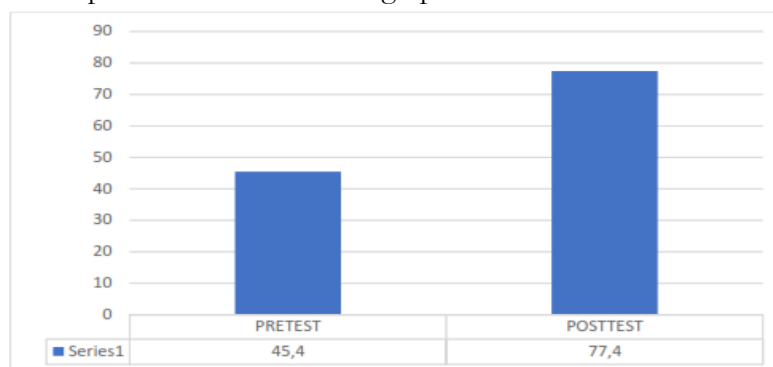

Figure 1. Graphics Mark Average Pretest and Posttest

Based on Graph 1, it is shown that the average pretest score was 45.4, with the lowest score being 25 and the highest reaching 60. Following the implementation of the Project-Based Learning (PjBL) model, there was an improvement in the posttest results. The average posttest score increased to 77.4, with the lowest score recorded at 65 and the highest at 90. From this data, it can be concluded that the average posttest score is higher than the average pretest score.

1. Test Normality

The normality test aims to assess whether the collected data follows a normal distribution. In this research, the Shapiro-Wilk Test was employed and analysed using IBM SPSS Statistics version 26. According to the decision-making criteria, if the significance value (sig) is greater than the alpha level ($\alpha = 0.05$), the data is considered to be normally distributed. Conversely, if the sig value is less than $\alpha = 0.05$, the data does not follow a normal distribution. The normality test results for both the pretest and posttest scores are presented in Table 2 below:

Table 2. Results Test Normality Pretest-Posttest

Pretest	Posttest	Information
$a= 0.05$	$a= 0.05$	Normal
Sig. 0.50	Sig.0.10	Normal

Referring to Table 2, the Shapiro-Wilk normality test results for both pretest and posttest data indicate that the data are normally distributed. This conclusion is drawn from the significance values, which exceed the threshold of 0.05. Specifically, the pretest normality test yielded a significance value of 0.50 (> 0.05), while the posttest data produced a value of 0.10 (> 0.05).

2. Hypothesis Testing

Hypothesis testing in this study was conducted using the Paired Sample T-Test to determine whether there is a statistically significant difference in students' average creative thinking skills. The test was carried out at a 5% significance level (0.05). The outcomes of the Paired Sample T-Test are presented in Table 3 below:

Table 3. Results Test Paired Sample T-Test

Pretest	A	Sig. (2 tailed)	Information
Posttest	0.005	0,000	Ho is rejected and Hi is accepted

As presented in Table 3, the results of the hypothesis test based on pretest and posttest scores show a significance value (Sig. 2-tailed) of 0.000. Since this value is less than the alpha level of 0.05, it indicates that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. This finding suggests that there is a significant difference in students' creative thinking abilities after the implementation of the Project Based Learning (PjBL) model.

3. Test N- Gain

Test N-Gain done for know improvement thinking ability creative students after being given treatment model learning *project-based learning*. Improvement taken from the value *pretest* and *posttest* to students class VIII E Which become sample on study This. Based on the N-Gain test is 0.59. From the calculation results, N-Gain is classified as an interpretation of $0.3 < g < 0,70$ is in the moderate category. This means that students experience improvement ability think creative with category currently.

4. Data Results Questionnaire Response Student

The questionnaire was given to students When final meeting and filled by 25 students. The questionnaire was given with the aim of finding out students' responses to the use of the *Project Based Learning model. Learning* (PjBL) that has been implemented. The questionnaire sheet contains 20 items statements that must be filled in by students with coding; Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. The results of the calculation of the percentage of student response questionnaires can be seen in table 4.13 below:

Table 5. Percentage Results of Student Response Questionnaire Regarding Model Learning Project-Bassed Learning

Variables	Indicator	Presentation	Information
Project Based Learning Model	Designing project planning Preparation of project schedule; Project completion with teacher monitoring; Preparation and presentation reports or publication of project results; Testing the results; Evaluation of project processes and results; Superiority; Benefit.	82.58%	Good
Creative Thinking Ability	Smooth Thinking; Think Flexible; Think Original; Elaborative Thinking.	83.77%	Good
	Average	83.00%	Good

Referring to Table 5, the results of the student response questionnaire reveal that the average percentage of responses to the application of the Project Based Learning model in the Islamic Religious Education and Character Education subject reached 83.00%, which falls into the "good" category. This indicates that students responded very positively to the implementation of the Project Based Learning model. The use of this model was perceived to help students better comprehend the material, enhance their creative thinking abilities, and develop problem-solving skills.

Discussion

The findings reveal that Project-Based Learning has a significant and positive impact on the development of students' creative thinking skills in Islamic Religious Education.[27] This confirms prior research on PjBL in general education settings and extends its validity into religious and values-based instruction.[28] The notable improvement in **originality** and **fluency** suggests that PjBL provides the cognitive freedom and collaborative environment necessary for students to generate novel ideas and express them without rigid constraints.[29] This contrasts with conventional instruction, which often limits students to predefined answers and discourages divergent thinking.

The integration of Islamic themes into project work (e.g., social justice, environmental care, ethical behavior) allowed students to apply abstract religious concepts in concrete, personally meaningful contexts.[30] This not only facilitated creativity but also deepened students' moral understanding and engagement with Islamic teachings.[31] In the context of education, the development of creative thinking skills is important because it prepares students to face complex challenges in the future.[32] According to Treffinger et al., creative thinking can be developed through a learning environment that facilitates exploration, experimentation, and risk taking.[33]

Integrating Project-Based Learning (PjBL) into Islamic Religious Education provides students with opportunities to engage with religious values in a more relevant and meaningful context.[34] As stated by Lubis et al., applying the PjBL approach in Islamic Religious Education can serve as a bridge between abstract religious theory and its application in everyday life.[35] Prior

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[27] Karima Matar Almazroui, "Project-Based Learning for 21st-Century Skills: An Overview and Case Study of Moral Education in the UAE," *The Social Studies* 114, no. 3 (2023): 125–36.

[28] Siti Aisyah and Dian Novita, "Teachers' Perception of the Implementation of Project-Based Learning in Early Childhood Education in Indonesia: Project-Based Learning: A Perspective from Indonesian Early Childhood Educators," *Cogent Education* 12, no. 1 (2025): 2458663.

[29] Muhammadafeefee Assalihee et al., "Transforming Islamic Education through Lesson Study (LS): A Classroom-Based Approach to Professional Development in Southern Thailand," *Education Sciences* 14, no. 9 (2024): 1029.

[30] Hidayatullah and Budi Setiawan, "Empowering Students' Collaborative Skills Sustainability by Utilizing Problem-Based Learning as an Instructional Strategy in Online Learning," *Cogent Education* 11, no. 1 (2024): 2362006.

[31] John W Thomas, "A Review of Research on Project-Based Learning," 2000.

[32] Munjiat et al., "Improving Academic Achievement for Islamic Religious Education Students through Lecturer Competence and Digital Learning Media."

[33] Hasan Baharun et al., "Technical Assistance Program as A Media to Overcome the Problem of Children's Dyslexia in Madrasah Ibtidaiyah," *Al Ibtida: Jurnal Pendidikan Guru MI* 9, no. 1 (2022): 74–87.

[34] Suyadi, "Type Developing an Islamic Education Curriculum on Outcomes-Based Education as a Defensive Strategy Facing the Challenges of Industry Revolution 4.0."

[35] Siti Maryam Munjiat, "Leading Class Program In Increasing Learning Achievement At MTS 2 Cirebon," *Jurnal At-Tarbiyat: Jurnal Pendidikan Islam* 5, no. 2 (2022).

research has highlighted the benefits of incorporating PjBL into this subject area.[36] For instance, Judge found that PjBL contributes to increased student motivation and a deeper understanding of Islamic Religious Education concepts at the junior high school level.[37] Similarly, Rohmah observed that the use of PjBL enhances students' abilities to think critically and work collaboratively.[38]

In relation to the development of creative thinking skills, Azizah et al. found that the PjBL approach in learning Islamic Religious Education could enable students to have more diverse and appropriate interpretations of the Qur'an.[39] Nevertheless, there are still few research studies that specifically examine the relationship of PjBL in Islamic Religious Education and developing creative thinking skills in an integrated manner.[40]

During the study, it was determined that using the project-based learning model was able to improve students' creative thinking.[41] This can happen because in the learning process, the researcher involved project work that allowed the students to design, solve problems, generate ideas, create and produce a product.[42] This is comparable to Abidin's viewpoint that project based learning is a model of learning used to study as a way for students to acquire student understanding, students are actively involved in solving a problem with the capability of researching, analyzing, creating and presenting a product that will be presented in the classroom.[43] A project-based learning model as a learning model that can be integrated into the learning process can train students to enhance students' creative thinking skills in students by training the skills of fluency thinking, flexible thinking, original thinking, and elaboration thinking.[44]

The results of this study have several important implications for the world of education. First, the implementation of PjBL can be an alternative strategy for teachers in developing more innovative and student-centered learning methods. Second, improving creative thinking skills acquired through PjBL can help students in facing challenges in the modern era that demand creative and innovative problem solving. Third, the results of this study can be a basis for policy

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[36] Jamye Foster and Gallayanee Yaoyuneyong, "Teaching Innovation: Equipping Students to Overcome Real-World Challenges," *Higher Education Pedagogies* 1, no. 1 (2016): 42–56, https://doi.org/10.1080/23752696.2015.1134195.

[37] Iin Permata Puspita Sari Cibro and Ellisa Fitri Tanjung, "Penerapan Strategi Active Learning Berbasis Teknologi Informasi Pada Mata Pelajaran PAI Di Pondok Pesantren Darurahmah Sepadan Aceh," *EDUKASIA: Jurnal Pendidikan Dan Pembelajaran* 5, no. 1 (2024): 1627–36, https://doi.org/https://doi.org/10.62775/edukasia.v5i1.1100.

[38] Rafi Pradipa et al., "Investigation of Learning Loss in the Students' Skills Competency Domain in Islamic Religious Education Subjects at Muhammadiyah Jogokariyan Elementary SchoolInvestigation of Learning Loss in the Students' Skills Competency Domain in Islamic Religious Education," *SALIHA: Journal of Islamic Education* 8, no. 1 (2025): 32–51.

[39] Annisa Husul Khotimah et al., "Islamic Religious Education in the National Education System," *At-Tadris: Journal of Islamic Education* 2, no. 1 (2023): 82–91.

[40] Siti Maryam Munjiat et al., "Progressivism of Multicultural Islamic Education," *Munaddhomah: Journal of Islamic Education Management* 4, no. 3 (2023): 572–82, https://doi.org/https://doi.org/10.31538/munaddhomah.v4i3.509.

[41] J. Thomas Pawlowski, "Hybrid Memory Cube (HMC)," in *2011 IEEE Hot Chips 23 Symposium, HCS 2011*, 2016, https://doi.org/10.1109/HOTCHIPS.2011.7477494.

[42] Ika Ernawati, MM Endang Susetyawati, and Rina Dyah Rahmawati, "Developing a Self-Assessment Instrument for a Microteaching Class," *KnE Social Sciences* 2022, no. 1 (2022): 754–67, https://doi.org/10.18502/kss.v7i14.12027.

[43] Mark Halstead, "An Islamic Concept of Education," *Comparative Education* 40, no. 4 (2004): 517–29.

[44] H Purnomo et al., "Covid-19 Pandemic: Project-Based Learning as Interprofessional Learning Model to Improve Students With Special Needs' Self Efficacy," *Sociologia y Tecnociencia* 12, no. 2 (2022): 284–306, https://doi.org/https://doi.org/10.24197/st.2.2022.284-306.

makers in schools to integrate project-based approaches into the Islamic Religious Education curriculum to improve learning effectiveness.

Conclusion

The findings of this study indicate that the use of the project-based learning model to enhance students' creative thinking skills at SMP Negeri 2 Indramayu Regency falls into the "good" category. This conclusion is supported by the results of the student response questionnaire, which yielded a positive response rate of 83.00%. Additionally, the N-gain analysis revealed an improvement in **students'** creative thinking abilities, with a score of 0.59, **classified** as moderate. Several factors contributed to the successful implementation of the project-based learning model, including teacher involvement, adequate facilities and infrastructure, and students' enthusiasm for learning. On the other hand, challenges faced in applying this model included relatively high implementation costs, extended time requirements, and a lack of active participation from some students.

This study has several limitations that need to be considered. First, this study was only conducted in one school, so the results may not be generalizable to other schools with different characteristics. Second, **the** limited duration of the study may affect learning outcomes, especially in measuring the development of creative thinking skills in the long term. Third, external factors such as the learning environment and student background can also influence the research results, but were not analyzed in depth in this study. Therefore, further research with a wider scope and longer research period is highly recommended to obtain a more comprehensive understanding.

This study recommends the systematic integration of Project-Based Learning into Islamic Religious Education curricula to foster students' creative thinking. Teacher training programs should prioritize instructional design and facilitation of PjBL, while schools and policymakers must ensure institutional support for its implementation. Future research is encouraged to examine the long-term impact of PjBL on learners' moral and spiritual development within diverse Islamic educational contexts.

References

Ahmad, Fajrun Najah, Mispani Mispani, and Muhammad Yusuf. "Integrasi Kurikulum Pendidikan Islam Pondok Pesantren Dan SMA." *Assyfa Journal of Islamic Studies* 1, no. 1 (July 22, 2023): 73–86. https://doi.org/10.61650/ajis.v1i1.164.

Ahmed, Farah, and Safaruk Chowdhury. "Rethinking Contemporary Schooling in Muslim Contexts: An Islamic Conceptual Framework for Reconstructing K-12 Education." *Educational Philosophy and Theory* 57, no. 2 (2025): 152–65.

Aisyah, Siti, and Dian Novita. "Teachers' Perception of the Implementation of Project-Based Learning in Early Childhood Education in Indonesia: Project-Based Learning: A Perspective from Indonesian Early Childhood Educators." *Cogent Education* 12, no. 1 (2025): 2458663.

Almazroui, Karima Matar. "Project-Based Learning for 21st-Century Skills: An Overview and Case Study of Moral Education in the UAE." *The Social Studies* 114, no. 3 (2023): 125–36.

Aseery, Ahmad. "Enhancing Learners' Motivation and Engagement in Religious Education Classes at Elementary Levels." *British Journal of Religious Education* 46, no. 1 (January 2, 2024): 43–58. https://doi.org/10.1080/01416200.2023.2256487.

Asnawi, Moh. "Kedudukan Dan Tugas Pendidik Dalam Pendidikan Islam." *Tribakti: Jurnal Pemikiran Keislaman* 23, no. 2 (2012).

Assalihee, Muhammadafeefee, Nachima Bakoh, Yusop Boonsuk, and Jaruwat Songmuang. "Transforming Islamic Education through Lesson Study (LS): A Classroom-Based Approach

to Professional Development in Southern Thailand." *Education Sciences* 14, no. 9 (2024): 1029.

Asyafah, Abas. "Research Based Instruction in the Teaching of Islamic Education." *SpringerPlus* 3, no. 1 (2014): 1–5. https://doi.org/10.1186/2193-1801-3-755.

Baharun, Hasan, Nurhidayah Trisilia, Siti Maryam Munjiat, and Bannaga Taha Al-Zubair Hussen. "Technical Assistance Program as A Media to Overcome the Problem of Children's Dyslexia in Madrasah Ibtidaiyah." *Al Ibtida: Jurnal Pendidikan Guru MI* 9, no. 1 (2022): 74–87.

Batool, Samreen, Hazril Izwar Ibrahim, and Ahmad Adeel. "How Responsible Leadership Pays off: Role of Organizational Identification and Organizational Culture for Creative Idea Sharing." *Sustainable Technology and Entrepreneurship* 3, no. 2 (2024): 100057. https://doi.org/10.1016/j.stae.2023.100057.

Cibro, Iin Permata Puspita Sari, and Ellisa Fitri Tanjung. "Penerapan Strategi Active Learning Berbasis Teknologi Informasi Pada Mata Pelajaran PAI Di Pondok Pesantren Darurahmah Sepadan Aceh." *EDUKASIA: Jurnal Pendidikan Dan Pembelajaran* 5, no. 1 (2024): 1627–36. https://doi.org/https://doi.org/10.62775/edukasia.v5i1.1100.

Ernawati, Ika, M.M. Endang Susetyawati, and Rina Dyah Rahmawati. "Developing a Self-Assessment Instrument for a Microteaching Class." *KnE Social Sciences* 2022, no. 1 (2022): 754–67. https://doi.org/10.18502/kss.v7i14.12027.

Fitri Rahmawati. "Kecenderungan Pergeseran Pendidikan Agama Islam Di Indonesia Pada Era Disrupsi." *Tadris* 13, no. 245–257 (2018).

Foster, Jamye, and Gallayanee Yaoyuneyong. "Teaching Innovation: Equipping Students to Overcome Real-World Challenges." *Higher Education Pedagogies* 1, no. 1 (2016): 42–56. https://doi.org/10.1080/23752696.2015.1134195.

Halstead, Mark. "An Islamic Concept of Education." *Comparative Education* 40, no. 4 (2004): 517–29.

Hidayat, Tatang, and Makhmud Syafe'i. "Peran Guru Dalam Mewujudkan Tujuan Pembelajaran Pendidikan Agama Islam Di Sekolah." *Rayah Al-Islam* 2, no. 01 (2018): 101–11.

Hidayatullah, and Budi Setiawan. "Empowering Students' Collaborative Skills Sustainability by Utilizing Problem-Based Learning as an Instructional Strategy in Online Learning." *Cogent Education* 11, no. 1 (2024): 2362006.

Khotimah, Annisa Husul, Afiq Azizah, Nurhanisa Ginting, Mhd Fajar Siddik, and Ahmad Darlis. "Pendidikan Agama Islam Dalam Sistem Pendidikan Nasional." *At-Tadris: Journal of Islamic Education* 2, no. 1 (2023): 82–91.

Kokotsaki, Dimitra, Victoria Menzies, and Andy Wiggins. "Project-Based Learning: A Review of the Literature." *Improving Schools* 19, no. 3 (2016): 267–77.

Kurniawan, Iwan, Eneng Muslihah, and Encep Syarifudin. "Kyai's Leadership Model In Islamic Educational Institutions Pondok Pesantren: A Literature Study." *International Journal Of Graduate Of Islamic Education* 3 (2022): 302.

Lee, Virginia S. *Teaching and Learning through Inquiry: A Guidebook for Institutions and Instructors*. Taylor & Francis, 2023.

Maulana, Abdul Haris, Suteja Suteja, Mahfudz Mahfudz, and Siti Maryam Munjiat. "Keteladanan Kyai Dalam Pembentukan Akhlak Sosial Santri Pondok Pesantren As-Sanusi Babakan Ciwaringin Kabupaten Cirebon." *Atthulab: Islamic Religion Teaching and Learning Journal* 6, no. 1 (July 13, 2021): 103–19. https://doi.org/10.15575/ath.v6i1.9682.

Maulana, Daim, and Muhammad Nabil. "Sistem Pembentukan Karakter Melalui Pola Asuh Santri Di Pondok Pesantren Al-Alif Tunjungan Blora." *Jurnal Al Mu'allim: Journal of Islamic Education* 1, no. 1 (July 2022): 34–48.

Munjiat, Siti Maryam. "Leading Class Program In Increasing Learning Achievement At MTS 2 Cirebon." *Jurnal At-Tarbiyat: Jurnal Pendidikan Islam* 5, no. 2 (2022).

Munjiat, Siti Maryam, and Lilis Indriani. "Analysis of Distance Education Students' Learning Satisfaction Factors: A Study in Higher Education." *Indonesian Journal of Cyber Education* 1, no.

1 (2023): 54–67.

Munjiat, Siti Maryam, Abdul Rifa'i, Jamali Jamali, and Siti Fatimah. "Progressivism of Multicultural Islamic Education." *Munaddhomah: Jurnal Manajemen Pendidikan Islam* 4, no. 3 (2023): 572–82. https://doi.org/https://doi.org/10.31538/munaddhomah.v4i3.509.

Munjiat, Siti Maryam, Abdul Rifaâ, Cecep Sumarna, and Didin Nurul Rosidin. "Improving Academic Achievement for Islamic Religious Education Students through Lecturer Competence and Digital Learning Media." *Intelektual: Jurnal Pendidikan Dan Studi Keislaman* 13, no. 2 (2023): 177–92.

Munjiat, Siti Maryam, Umihani Umihani, and Mahbub Nuryadien. "Integrasi Nilai-Nilai Salafiyah Dan Kewirausahaan Modern Di Pondok Pesantren Wirausaha Kebon Cinta." *INCARE, International Journal of Educational Resources* 5, no. 4 (December 22, 2024): 410–22. https://doi.org/10.59689/incare.v5i4.1064.

Pawlowski, J. Thomas. "Hybrid Memory Cube (HMC)." In *2011 IEEE Hot Chips 23 Symposium, HCS 2011*, 2016. https://doi.org/10.1109/HOTCHIPS.2011.7477494.

Pradipa, Rafi, Nurchamidah Nurchamidah, Kuni Safingah, Muhammad Hamsah, and Ali Miftakhu Rosyad. "Investigation of Learning Loss in the Students' Skills Competency Domain in Islamic Religious Education Subjects at Muhammadiyah Jogokariyan Elementary SchoolInvestigation of Learning Loss in the Students' Skills Competency Domain in Islamic Religious Edu." *SALIHA: Jurnal Pendidikan Islam* 8, no. 1 (2025): 32–51.

Purnomo, H, A Karim, F Mansir, and J. A Valero-Matas. "Covid-19 Pandemic: Project-Based Learning as Interprofessional Learning Model to Improve Student With Special Needs' Self Efficacy." *Sociologia y Tecnociencia* 12, no. 2 (2022): 284–306. https://doi.org/https://doi.org/10.24197/st.2.2022.284-306.

Rosyad, Ali Miftakhu, Suhendrik Suhendrik, Rahman Faozi, Nurchamidah Nurchamidah, and Muhammad Hamsah. "Pelaksanaan Kurikulum Merdeka Belajar Di Sekolah Menengah Kejuruan." *Berkala Ilmiah Pendidikan* 4, no. 3 SE-Articles (November 30, 2024): 712–23. https://doi.org/10.51214/bip.v4i3.1255.

Rupita, Linda, and Eneng Muslihah. "Penerapan Metode Ummi Dalam Pembelajaran Al-Qur'an." *Geneologi PAI: Jurnal Pendidikan Agama Islam* 5, no. 2 (2019): 111–16.

Saad, Aslina, and Suhaila Zainudin. "A Review of Project-Based Learning (PBL) and Computational Thinking (CT) in Teaching and Learning." *Learning and Motivation* 78 (2022): 101802.

Saputra, M Fachdir, Sangkot Sirait, Karwadi Karwadi, Nurchamidah Nurchamidah, and Muhammad Hamsah. "The Values of Islamic Education Philosophy" Adat Besandi Syarak, Syarak Besandi Kitabullah" in Kampung Sakti Rantau Batuah." *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama* 15, no. 1 (2023): 559–72.

Shodikin, Ghufron Fajriz, Achmad Fawaid, and Lukman Sholeh. "An Analysis of Kyai's Charisma and Leadership in The Marketing of Islamic Boarding School Institutions." *Edukatif : Jurnal Ilmu Pendidikan* 5, no. 1 (2023): 642–50. https://doi.org/10.31004/edukatif.v5i1.4629.

Sugiyono. *Metode Penelitian Kuantitatif*. Bandung: Alfabeta, 2018.

Suyadi, Suyadi. "Type Developing an Islamic Education Curriculum on Outcomes-Based Education as a Defensive Strategy Facing the Challenges of Industry Revolution 4.0." *International Journal of Education and Learning* 4, no. 1 (2022): 41–57.

Thomas, John W. "A Review of Research on Project-Based Learning," 2000.

Unariah, Uun, and Siti Maryam Munjiat. "The Effect of a Scientific Approach on Motivation to Learn Morals at MA Salafiyah." *Syaikhuna: Jurnal Pendidikan Dan Pranata Islam* 14, no. 02 (2023): 234–47.

Zhao, Nan, Xinyi Zhou, Bo Liu, and Wei Liu. "Guiding Teaching Strategies with the Education Platform during the COVID-19 Epidemic: Taking Guiyang No. 1 Middle School Teaching Practice as an Example." *Sci Insigt Edu Front* 5, no. 2 (2020): 531–39.