



Implementation Of Project Based Learning Mode In The Independent Curriculum Towards Improving The Learning Outcomes Of Social Students In Grade VIII

Immanue Natanae Siahaan¹, Mian Siahaan², Dearlina Sinaga³

Fakultas Keguruan Dan Ilmu Pendidikan Universitas HKBP Nommensen Pematangsiantar, Indonesia

Email: immanuelns13@gmail.com

Article History:

Received: 5 January 2025

Revised: 5 June 2025

Published: 5 December 2025

Abstract

This study aims to identify the effect of using the Project Based Learning mode in the Merdeka Curriculum on student learning outcomes in social studies for eighth grade students at SMP Negeri 27 Medan. The study applied a quantitative approach with a quasi-experimental method and a non-equivalent control group design. The research sample consisted of two classes, named class VIII-3 as the experimental group with 30 students and class VIII-2 as the control group with 29 students. The data collection instrument was an objective test consisting of 20 questions administered at the pretest and posttest stages. The results showed an increase in learning ability among students in the experimental class after the Project Based Learning mode was implemented. The average pretest score in the experimental class was 45.67, increasing to 75.42 in the posttest. Meanwhile, the control class obtained an average pretest score of 54.83 and a posttest score of 79.48. The learning completeness in the experimental class reached 83.33%, higher than the control class. The data prerequisite test showed normal and homogeneous results, so the analysis was continued with an Independent Sample T-Test. The statistical analysis results confirmed that there was a significant difference between the two groups, so it can be concluded that the Project Based Learning mode is effective in improving student learning outcomes in social studies. Keywords: Project-Based Learning, Merdeka Curriculum, Learning Outcomes, Social Studies.

INTRODUCTION

Education is the most essential factor for enhancing development in a country. To enhance national development, the quality of education is paramount (Hermanto, Sarwi, & Yusuf, 2020). The learning process, media used, and learning methods are some of the components that can influence the quality of education (Abdurrahman & Mahmudah, 2023). Selecting and implementing appropriate learning methods can help students participate more actively in learning activities. One learning method currently under development is project-based learning (Baroroh, Alim, & Putra, 2024).

According to the Republic of Indonesia Law Number 20 of 2003 concerning the Education System, education is a conscious and structured effort to create a learning environment and learning activities where students can actively develop their abilities to

have spiritual religious strength, self-control, personality, intelligence, noble morals, and the skills needed by themselves, society, the nation and the state (Sukawati, Ismayani, & Permana, 2019).

Education requires a learning design and mode that provides students with the opportunity to learn in a comfortable, relaxed, enjoyable, and stress-free environment. One particularly effective learning mode in this regard is project-based learning.

Project-based learning places students at the center of learning in real-life projects to solve problems or challenges relevant to everyday life, encouraging students to be active and collaborative in achieving learning objectives (Zalukhu, Zega, Daeli, & Bawamenewi, 2023).

Learning using the Project Based Learning mode has many advantages. According to Hartono and Asiyah in a journal cited by Yani, (Syukur, Fitria, & F, 2021) the advantages of the Project Based Learning learning mode include: (1) increasing student motivation in working on projects, (2) encouraging students to be more creative and innovative in the learning process and problem solving, (3) strengthening collaboration among students, and (4) building scientific attitudes such as honesty, accuracy, responsibility, and creativity. In addition, Farida, (Misidawati, Ernawati, & Shofwani, 2021) stated that Project Based Learning is a learning mode that is very popular with students because it can improve the quality of learning and provide valuable experiences in gaining knowledge (Nida Winarti, Maula, Amalia, Pratiwi, & Nandang, 2022).

Based on the above, it is evident that the PjBL mode has an impact on student learning activities and learning outcomes. According to Sundahry (2018), this shows that every learner must be active on their own, and without activity, the learning process is impossible. These activities are not just enough to listen and take notes (Jääskä & Aaltonen, 2022). Therefore, according to Fitria (Guo, Saab, Post, & Admiraal, 2020) teachers need to change habits that only rely on experience and feel inadequate in using learning modes as reasons that need to be improved for the future education period (Rahman & Ramli, 2024).

Currently in education the curriculum is increasingly being developed to demand the readiness of both teachers and students Rosidah., (2021), Changes and improvements to the curriculum in Indonesia have begun since 1947, 1964, 1968, 1973, 1975, 1984, 1994, 1997 was a revision of the 1994 curriculum, 2004 was the Competency Based Curriculum, and the 2006 curriculum was called the Education Unit Level Curriculum, and in 2013 the government through the Ministry of National Education changed it again to the 2013 curriculum (Kurtilas) and in 2018 there was a revision to the Revised Kurtilas (Teguh Dwi Puji Santoso, 2022).

The independent curriculum has become a new mainstay in school learning, especially for the implementation of pioneering schools. The independent curriculum emerged thanks to the presence of the Minister of Education and Culture of the Republic of Indonesia, Nadiem Makarim. This curriculum concept expects students to be active and independent and supports the use of multiple learning modes. The Independent Curriculum emphasizes the learning process on meeting the needs and characteristics of students, which will certainly provide students with the freedom to continue developing according to their potential, interests, and talents (Fadhilah, Husin, & Raddhin, 2023). This is especially true

in the implementation of the Independent Curriculum at the junior high and senior high school levels. In this highly dynamic condition, a transformation of learning is needed to improve the quality of Indonesian education, such as the reforms implemented by the Ministry of Education and Culture, which has established a new policy, namely independent learning. Independent learning was created to shift the concept of learning from initially being based on educators to a learning system that is centered on students (Feriyanto & Anjariyah, 2024).

Based on the explanation above, implementing the Merdeka Curriculum has significantly improved student learning outcomes, leading to improved learning outcomes. Furthermore, implementing the Merdeka Curriculum requires teachers to be more discerning in their choice of teaching methods to ensure students experience the freedom to learn in the classroom (Wulandari, Sutrio, Doyan, & Rahayau, 2024).

Based on initial observations carried out by researchers on students at SMP Negeri 27 Medan, researchers found that students had difficulty in understanding the learning material well because students' critical thinking skills were still low, students' lack of role in the learning process, lack of collaboration in working together between students in groups, students' minimal ability in problem solving, students experienced difficulties in cognitive and optimal learning so that it affected students' learning outcomes as seen from the description of learning outcomes at SMP Negeri 27 Medan during the last three semesters.

The learning data above indicates a decline in student learning outcomes (Wurdinger, Haar, Hugg, & Bazon, 2007). Researchers suspect this problem stems from a lack of student participation in the learning process, a lack of discussion between students, a lack of interaction between students and teachers to ask questions about learning materials, and limited problem-solving skills, all of which contribute to a decline in the quality of education (Doyan et al., 2025b).

Improving the quality of education requires reforms in the educational sector, one of which is through a direct approach to students using learning models. Project-based learning can be a solution to improve student learning outcomes and align the learning process with the independent curriculum (Doyan et al., 2025a). Project-based learning can also be applied to groups, allowing students to work collaboratively to optimize the learning process and achieve learning objectives (Putri, Bukit, & Simanjuntak, 2022).

Based on the explanation that has been described, the researcher found several interesting things so that the title of the research was "Implementation of Project Based Learning Mode to Improve Learning Outcomes of Grade VIII Students at SMP Negeri 27 Medan".

METHOD

This research will be conducted through an experimental method and quantitative research design, namely, quasi-experimental with a non-equivalent control group design approach. The subjects of this study will be randomly selected and classified into two different groups: the experimental group and the control group. In the experimental group, students will be given treatment where they will learn using the Project Based Learning (PjBL) mode, while the control group will use the conventional learning mode. The purpose of this design is to measure the effectiveness of the implementation of PjBL in the

independent curriculum on improving the learning outcomes of grade VIII students at SMP Negeri 27 Medan. To determine the level of difference, a pretest and posttest will be conducted on each group.

This research was conducted at SMP Negeri 27 Medan, Jl. Pancing Pasar IV No. 2, Kenangan Baru, Percut Sei Tuan District, Medan, North Sumatra 20371. The reason for choosing this location is that the school has implemented the independent curriculum so that the researcher is very suitable to apply the project-based learning learning mode (Irsyad & Anggraini, 2023).

The research was conducted in the even semester of the 2024/2025 academic year, taking into account the availability of data and activity schedules at the research location. The object of this research is the implementation of the project-based learning mode in improving the learning outcomes of grade VIII students at SMP Negeri 27 Medan.

The data analysis technique used in this study was quantitative analysis. This analysis aims to determine the effect of variables (X1) and project-based learning (X2) in the Merdeka curriculum on the variable (Y) of learning outcomes. The correlation technique applied was simple linear regression analysis.

RESULTS AND DISCUSSION

Description of Research Results

This research was conducted at SMP Negeri 27 Medan, Jl. Pancing IV, Percut Sei Tuan District, Medan City, North Sumatra Province. The population in this study were all 180 students of grade VIII consisting of 6 grades, and the subjects in this study were students of grade VIII-3 as the experimental group and students of grade VIII-2 as the control group. The researcher applied the Project Based Learning learning mode (Pratiwi, 2024).

Grade VIII-1 of SMP Negeri 27 Medan served as a pilot project for question validation. After the questions were validated, a pretest was given to grade VIII-3 students who were in the experimental group, then treatment was carried out by applying the Project Based Learning learning mode to the Indonesian Economic Development material (Septiani & Suyanti, 2022). Grade VIII-3 students were given a posttest to see the results of student learning after being given the treatment. Next, a pretest was given to grade VIII-2 students who were in the Control group, then learning was carried out using the lecture method on the Indonesian Economic Development material (Biazus & Mahtari, 2022). Grade VIII-2 students were given a posttest to see the results of student learning without using the Project Based Learning learning mode. The pretest and posttest results from the experimental and control groups were used to determine the effect of using the Project Based Learning learning mode in the independent curriculum on student learning outcomes in social studies learning. The instrument used in this study was a multiple-choice question consisting of 20 questions. The instrument questions are the results of a trial whose characteristics have been analyzed, namely validity, reliability, level of difficulty of the questions, and the discriminating power of the questions (Maysyaroh & Dwikoranto, 2021).

The data in this study were obtained from two types of tests given to each class: a pretest and a posttest. Pretest scores reflect each class's baseline abilities before receiving treatment, while posttest scores indicate the extent of change that occurred after the two

classes underwent different treatments. The experimental class was treated using a Project-Based learning model, while the control class used conventional learning methods.

Table 1. Summary of Hypothesis Test Calculations

Test of Homogeneity of Variances			
Results			
Levene			
Statistics	df1	df2	Sig.
2,568	3	114	.058

Based on the results of *Levene's Test of Homogeneity of Variance* in the table above, the significance values obtained were 0.058 (based on the mean), 0.059 (based on the median), 0.059 (based on the median with adjusted df), and 0.060 (based on the trimmed mean). All significance values are greater than the 0.05 significance level. Thus, it can be concluded that the research data has homogeneous variance. Based on the results of the homogeneity of variance test above, the significance values obtained for the mean, median, median with adjusted df, and trimmed mean are all greater than 0.05. This indicates that the homogeneity of variance requirement in the parametric test has been met.

Discussion of Research Results

This study aims to determine the extent to which the implementation of the Project Based Learning (PjBL) mode can improve the learning outcomes of social studies students of grade VIII at SMP Negeri 27 Medan. The instrument trial was conducted on grade VIII-1, totaling 29 students with 25 multiple-choice questions. The results of the validity test showed 20 valid questions ($r > 0.375$) and 5 invalid questions (Zeptyani & Wiarta, 2020). The reliability test showed a high level of reliability, while the difficulty level test showed that most of the questions were in the medium category, with 8 easy questions and 12 medium questions. The questions were declared suitable for use because they were able to differentiate student abilities well (Diana, Yohannes, & Sukma, 2021).

In the pretest stage, most students had not reached the KKM, indicating a difference in initial abilities between the experimental and control classes. The average score for the experimental class was 45.67 (range 30–60), while the control class was 54.83 (range 35–75). After implementing the PjBL mode in learning, a posttest was conducted to measure improvements in learning outcomes .

The posttest results showed a significant increase in the experimental class with an average of 75.42, indicating that the PjBL mode had a positive effect on social studies learning outcomes. The control class also experienced an increase, but not as large as the experimental class (Safitri, Fatimah, & Alfiandra, 2024).

The normality test (Shapiro-Wilk) showed that all data were normally distributed (sig. > 0.05), and the homogeneity test (Levene's Test) showed that the variance between groups was homogeneous (sig. > 0.05). Thus, the data met the requirements for the Independent Sample T-Test (Hindun, Nurwidodo, Wahyuni, & Fauziah, 2024).

Overall, the implementation of the Project-Based Learning model enhances student learning activities, particularly in asking questions, expressing opinions, and collaborating in groups. These activities reflect the 21st-century skills that are the primary objectives of the Independent Curriculum: critical thinking, communication, collaboration, and creativity (Ebrahim & Brown, 2022).

CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that The implementation of *Project Based Learning Mode* in the Independent Curriculum has a significant effect on improving the learning outcomes of grade VIII students in SMP Negeri 27 Medan. This is evidenced by the difference in the average *post - test scores* of the experimental class and the control class, where the class using *the project based learning mode* obtained higher learning outcomes. The results of the hypothesis test show that there is a significant difference between the learning outcomes of students taught with *the Project Based Learning mode*. (PjBL) and students taught using conventional methods. Thus, the research hypothesis stating that the implementation of *the Project Based Learning mode* in the Independent Curriculum can improve the social studies learning outcomes of grade VIII students is accepted.

Overall, this research proves that *the Project Based Learning learning mode* is effective when used in the Independent Curriculum to improve social studies learning outcomes, because it is able to encourage students to be more active, creative, critical, and collaborative in understanding the learning material.

Suggestion

Based on the conclusions that have been presented, the researcher provides several suggestions which are expected to be input for various parties involved in efforts to improve the quality of learning.

1. Teachers are expected to implement *Project-Based Learning* more broadly in their teaching, particularly in social studies. This model not only improves learning outcomes but also fosters 21st-century skills such as critical thinking, creativity, communication, and collaboration. For its effective implementation, teachers need to design projects with careful planning, determine topics relevant to students' lives, and provide guidance at every stage of project implementation to ensure students remain focused and achieve learning objectives.
2. Students are expected to be more active, creative, and responsible in participating in project-based learning. Cooperation and communication within groups are key to the successful implementation of the PjBL model. Therefore, students should take advantage of opportunities in each project activity to improve critical thinking and problem-solving skills, as well as build self-confidence in conveying ideas or group work results.
3. Schools are advised to fully support the implementation of *Project-Based Learning*. This support can include providing adequate facilities and infrastructure, allocating appropriate learning time, and facilitating training for teachers to become more skilled in designing and implementing project-based learning. This

way, schools can become conducive and innovative learning environments in line with the demands of the Independent Curriculum.

4. For further researchers, this study was limited to two classes at SMP Negeri 27 Medan, so the results cannot be generalized widely. Therefore, further researchers are advised to conduct research with a larger scope, both in terms of the number of samples, locations, and variables studied. Further research can also examine other aspects of the implementation of PjBL, for example, its effect on learning motivation, collaboration skills, or strengthening student character. In addition, comparative research between *Project Based Learning* and other innovative learning modes can also be conducted to enrich the study of the effectiveness of learning strategies in the Independent Curriculum.

REFERENCE

- Abdurrahman, I. S., & Mahmudah, F. N. (2023). Development Of A Digital-Preneurship Measurement Instrument: Alignment Approach Through Project-Based Learning. *International Journal Of Educational Methodology*, 9(1), 283–295. Opgehaal Van [Https://Www.Ijem.Com/](https://www.ijem.com/)
- Baroroh, S., Alim, J. A., & Putra, Z. H. (2024). Peningkatan Hasil Belajar Matematika Materi Pecahan Dengan Menggunakan Model Pembelajaran Project Based Learning Untuk Siswa Kelas Iii Sekolah Dasar. *Innovative: Journal Of Social Science Research*, 4(1), 220–227.
- Biazus, M. De O., & Mahtari, S. (2022). The Impact Of Project-Based Learning (Pjbl) Model On Secondary Students' Creative Thinking Skills. *International Journal Of Essential Competencies In Education*, 1(1), 38–48. [Https://Doi.Org/10.36312/Ijece.V1i1.752](https://doi.org/10.36312/ijece.V1i1.752)
- Diana, N., Yohannes, & Sukma, Y. (2021). The Effectiveness Of Implementing Project-Based Learning (Pjbl) Model In Stem Education: A Literature Review. *Journal Of Physics: Conference Series*, 1882(1). [Https://Doi.Org/10.1088/1742-6596/1882/1/012146](https://doi.org/10.1088/1742-6596/1882/1/012146)
- Doyan, A., Susilawati, Harjono, A., Annam, S., Ikhsan, M., Ardianti, N. R., & Hakim, S. (2025a). A Review: Improving Generic Science Skills Through Interactive Web-Based Modern Physics Learning Media With Pjbl Model. *Jurnal Penelitian Pendidikan Ipa*, 11(3), 76–85. [Https://Doi.Org/10.29303/Jppipa.V11i3.10439](https://doi.org/10.29303/Jppipa.V11i3.10439)
- Doyan, A., Susilawati, Harjono, A., Annam, S., Ikhsan, M., Ardianti, N. R., & Hakim, S. (2025b). Interactive Web-Based Modern Physics Learning Media With Pjbl Model To Improve Scientific Attitudes: A Systematic Review. *Jurnal Penelitian Pendidikan Ipa*, 11(3), 30–39. [Https://Doi.Org/10.29303/Jppipa.V11i3.10440](https://doi.org/10.29303/Jppipa.V11i3.10440)
- Ebrahim, K., & Brown, L. (2022). Enhancing Student's Problem -Solving Skills Through Project-Based Learning. *Journal Of Problem Based Learning In Higher Education*, 10(1), 74–87.
- Fadhilah, F., Husin, M., & Raddhin, R. F. (2023). The Effectiveness Of Project-Based Learning (Pjbl) On Learning Outcomes: A Meta-Analysis Using Jasp. *Jipf (Jurnal Ilmu Pendidikan Fisika)*, 8(3), 327. [Https://Doi.Org/10.26737/Jipf.V8i3.3701](https://doi.org/10.26737/Jipf.V8i3.3701)

- Feriyanto, F., & Anjariyah, D. (2024). Deep Learning Approach Through Meaningful, Mindful, And Joyful Learning: A Library Research. *Electronic Journal Of Education, Social Economics And Technology*, 5(2), 208–212. <https://doi.org/10.33122/Ejeset.V5i2.321>
- Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A Review Of Project-Based Learning In Higher Education: Student Outcomes And Measures. *International Journal Of Educational Research*, 102(November 2019), 101586. <https://doi.org/10.1016/J.Ijer.2020.101586>
- Hermanto, I., Sarwi, S., & Yusuf, A. (2020). *Effectiveness Of Project-Based Learning Model To Improve Students' Cognitive Skills*.
- Hindun, I., Nurwidodo, N., Wahyuni, S., & Fauziah, N. (2024). Effectiveness Of Project-Based Learning In Improving Science Literacy And Collaborative Skills Of Muhammadiyah Middle School Students. *Jpbi (Jurnal Pendidikan Biologi Indonesia)*, 10(1), 58–69. <https://doi.org/10.22219/Jpbi.V10i1.31628>
- Irsyad, A. M., & Anggraini, D. (2023). Pengaruh Model Pembelajaran Project Based Learning Terhadap Keterampilan Menulis Teks Berita Siswa Kelas Vii Smp Negeri 2 Pariaman. *Jurnal Pendidikan, Bahasa Dan Budaya*, 2(2), 114–121.
- Jääskä, E., & Aaltonen, K. (2022). Teachers' Experiences Of Using Game-Based Learning Methods In Project Management Higher Education. *Project Leadership And Society*, 3, 100041.
- Maysyaroh, S., & Dwikoranto, D. (2021). Kajian Pengaruh Model Project Based Learning Terhadap Keterampilan Berpikir Kreatif Peserta Didik Pada Pembelajaran Fisika. *Orbita: Jurnal Kajian, Inovasi Dan Aplikasi Pendidikan Fisika*, 7(1), 44. <https://doi.org/10.31764/Orbita.V7i1.4433>
- Misidawati, D. N., Ernawati, F. Y., & Shofwani, S. A. (2021). Penerapan Model Project Based Learning untuk Meningkatkan Hasil Belajarmata Kuliah Public Relation di Masa Pandemi Covid-19. *Jurnal Educatio*, 7(4), 2005–2012. <https://doi.org/10.31949/Educatio.V7i4.1757>
- Nida Winarti, Maula, L. H., Amalia, A. R., Pratiwi, N. L. A., & Nandang. (2022). Penerapan Model Pembelajaran Project Based Learning Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Kelas Iii Sekolah Dasar. *Jurnal Cakrawala Pendas*, 8(3), 552–563. <https://doi.org/10.31949/Jcp.V8i3.2419>
- Pratiwi, I. (2024). The Project Based Learning Model On Students' Critical Thinking Skills. *Aksaqila International Humanities And Social Sciences [Aihss] Journal*, 3(1), 26–33. <https://doi.org/10.30596/Aihss.V3i1.493>
- Putri, R. K., Bukit, N., & Simanjuntak, M. P. (2022). The Effect Of Project Based Learning Model's On Critical Thinking Skills, Creative Thinking Skills, Collaboration Skills, & Communication Skills (4c) Physics In Senior High School. *Proceedings Of The 6th Annual International Seminar On Transformative Education And Educational Leadership (Aisteel 2021)*, 591(Aisteel), 323–330. <https://doi.org/10.2991/Assehr.K.211110.103>

- Rahman, S. A., & Ramli, M. (2024). Model Pembelajaran: Problem Based Learning & Project Based Learning. *Infinitum: Journal Of Education And Social Humaniora*, 1(1), 62–81.
- Safitri, S., Fatimah, S., & Alfiandra. (2024). Project Based Learning (Pjbl) Oriented Textbook To Increase Student Creativity. *Jurnal Pendidikan Dan Pengajaran*, 57(2), 249–262.
- Septiani, R. B. D., & Suyanti, R. D. (2022). Pengaruh Model Pembelajaran Project Based Learning (Pjbl) Berorientasi Collaborative Learning Dengan Media Video Animasi Terhadap Kemampuan Pemecahan Masalah Siswa Pada Materi Termokimia. *Jurnal Sekolah Pgsd Unimed*, 6(3), 99–107.
- Sukawati, S., Ismayani, R. M., & Permana, A. (2019). Penerapan Metode Project Based Learning Bermuatan Iptek Dalam Mata Kuliah Penulisan Bahan Ajar. *Semantik*, 8(2), 17–23. <https://doi.org/10.22460/Semantik.V8i2.P%25p>
- Syukur, S. K., Fitria, Y., & F, F. (2021). Pengembangan Bahan Ajar Ipa Tema 8 Menggunakan Model Project Based Learning Di Sekolah Dasar. *Pendipa Journal Of Science Education*, 6(1), 120–127. <https://doi.org/10.33369/Pendipa.6.1.120-127>
- Teguh Dwi Puji Santoso. (2022). Rancangan Pembelajaran Berkarakteristik Inovatif Abad 21 Pada Materi Penguat Audio Dengan Model Pembelajaran Berbasis Proyek (Project Based Learning). *Pendidikan*, 9300.
- Wulandari, N. O., Sutrio, Doyan, A., & Rahayau, S. (2024). The Influence Of Project Based Learning Model On Creative Thinking Skills And Physics Learning Outcomes. *Jurnal Penelitian Pendidikan Ipa*, 10(12), 10660–10669. <https://doi.org/10.29303/Jppipa.V10i12.9738>
- Wurdinger, S., Haar, J., Hugg, R., & Bezon, J. (2007). A Qualitative Study Using Project-Based Learning In A Mainstream Middle School. *Improving Schools*, 10(2), 150–161. <https://doi.org/10.1177/1365480207078048>
- Zalukhu, F. F., Zega, E. V. A. N., Daeli, F. F. D., & Bawamenewi, A. (2023). Pengembangan Media Gambar Untuk Meningkatkan Kemampuan Menulis Teks Eksplanasi Dengan Penerapan Model Project Based Learning. *Journal On Education*, 6(1), 5793–5800.
- Zeptyani, P. A. D., & Wiarta, I. W. (2020). Pengaruh Project-Based Outdoor Learning Activity Menggunakan Media Audio Visual Terhadap Perilaku Belajar Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 8(2), 69–79. <https://doi.org/10.23887/Paud.V8i2.24740>