Fajar Historia
Jurnal Ilmu Sejarah dan Pendidikan
https://e-journal.hamzanwadi.ac.id/index.php/fhs/index
ISSN: 2549-5585 (online), Vol. 10 No. 2 2026, hal 636-646

The Effectiveness of Project-Based Learning Integrated with Historical Methods in Improving Students' Historical Thinking Skills

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Received: 05-06-2026; Revised: 25-07-2026; Accepted: 28-07-2026; Published; 30-07-2026

Abstrak: Historical thinking is one of the primary objectives of contemporary history education. However, empirical studies consistently indicate that students' historical thinking skills remain limited because history instruction is still dominated by the transmission of factual, text-oriented knowledge. Therefore, an instructional model that promotes historical thinking is needed. This study examines the effectiveness of a Project-based Learning (PjBL) model integrated with historical methods in improving students' historical thinking skills. A quasi-experimental study employing a non-equivalent control group design was conducted with 124 eleventh-grade students. Data were collected through classroom observations, project-task analysis, and historical thinking tests, and analyzed using an independent-samples t-test with SPSS 25.0. The findings revealed a significant difference between the experimental and control groups ($t(122) = 7.083$, $p < 0.001$), indicating that the integrated PjBL model effectively enhanced students' historical thinking skills. This study contributes to history education by providing empirical evidence that integrating Project-based Learning with the historical method offers an effective pedagogical approach for fostering historical thinking, thereby extending the application of PjBL beyond content mastery toward disciplinary historical reasoning.

Keywords: historical method; historical thinking; historical learning; project-based learning

Abstrak: Kemampuan berpikir historis merupakan salah satu tujuan utama pembelajaran sejarah pada era pendidikan kontemporer. Namun, berbagai penelitian empiris menunjukkan bahwa kemampuan berpikir historis siswa masih rendah karena pembelajaran sejarah yang masih didominasi oleh transmisi pengetahuan yang bersifat tekstual, faktual dan berorientasi pada transfer informasi. Oleh karena itu, diperlukan model pembelajaran yang mampu mendorong keterlibatan peserta didik dalam proses berpikir historis secara aktif. Penelitian ini bertujuan untuk menganalisis efektivitas model Project-based Learning (PjBL) yang diintegrasikan dengan metode sejarah dalam meningkatkan kemampuan berpikir historis siswa. penelitian menggunakan desain kuasi eksperime dengan Non-equivalent Control Group Design yang melibatkan 124 siswa kelas XI. Data kemampuan berpikir historis dikumpulkan melalui observasi, analisis tugas proyek, dan tes kemampuan berpikir historis, kemudian dianalisis menggunakan uji independent sample t test dengan bantuan SPSS 25.0. Hasil penelitian menunjukkan nilai $t(122) = 7{,}083$ dengan nilai $p < 0{,}001$, yang menunjukkan bahwa model PjBL terintegrasi metode sejarah secara signifikan lebih efektif dalam meningkatkan kemampuan berpikir historis dibandingkan pembelajaran konvensional. Penelitian ini memberikan kontribusi terhadap bidang pendidikan sejarah dengan menyediakan bukti empiris bahwa integrasi PjBL dan metode sejarah merupakan pendekatan pedagogis yang efektif untuk mengembangkan kemampuan berpikir historis serta memperluas penerapan PjBL dari sekedar penguasaan materi menuju pengembangan penalaran historis sebagai kompetensi disipliner.

Keyword: kemampuan berpikir historis; metode sejarah; pembelajaran sejarah; project-based learning

Introduction

The 21st-century learning paradigm emphasizes the development of critical thinking skills, information literacy, and complex problem-solving (Kain et al., 2024). Within history education, these competencies are reflected in historical thinking, which requires students to evaluate historical evidence, contextualize past events, corroborate multiple source, and construct evidence-based interpretation (Seixas, 2017). Accordingly, historical thinking has become one of the primary learning outcomes in contemporary history education, including in the Indonesian curriculum (Badan Standar Kurikulum dan Asesmen Kemendikbudristek, 2022).

Despite this expectation, empirical studies consistently indicate that Indonesian students' historical thinking skills remain relatively low (Putri et al., 2025). Student still experience difficulties in analyzing historical source, evaluating the reliability of evidence, considering multiple perspectives, and constructing historical arguments (Saputra et al., 2025). This condition is closely related to classroom practices that continue to emphasize factual knowledge, textbook-oriented instruction, and teacher-centered knowledge transmission (Asagar & Islamia, 2022; Fikri et al., 2023; Issar, 2021; Lubis et al., 2023; Rahmawati et al., 2022; Wansink et al., 2016). Moreover, authentic historical inquiry through primary sources-including archives, historical documents, photographs, maps, digital artifacts, and oral testimonies-is still rarely implemented (Ardiansyah et al., 2022; Kumalasari et al., 2025; Setiyonugroho et al., 2023). Consequently, students tend to memorize historical facts rather than engage in disciplinary practices that characterize historians' work (Thorp & Persson, 2020; S. Wineburg, 2010). This perspective is grounded in disciplinary history, which views learning history not as acquiring factual knowledge but as engaging in historical inquiry through sourcing, contextualization, corroboration, and evidence-based interpretation (Seixas, 2017; S. S. Wineburg, 1991). Therefore, instructional approaches should provide opportunities for students to investigate historical problems using authentic historical practices rather than merely receiving historical information.

One instructional model frequently recommended for achieving these objectives is Project-based Learning (PjBL). Previous studies have demonstrated that PjBL can improve students' engagement and historical thinking (De La Paz & Hernández-ramos, 2013; Hernández-ramos & De La Paz, 2009; Martínez-Hita et al., 2021; Ofianto & Ningsih, 2021; Rahim et al., 2019). Nevertheless, the effectiveness of PjBL has not been consistently reported. Lim et al. (2023), for example, found only modest improvements in strudents' learning outcomes and attitudes toward history. Similarly, Kirschner et al. (2026) argued that minimally guided project activities may generate cognitive overload, while Venugopala et al. (2024) reported that many students struggle to organize project tasks without sufficient istructional guidance. These finding suggest that the effectiveness of PjBL depends not merely on project activities themselves but on the quality of the pedagogical structure embedded within the model (Zhang & Ramli, 2025).

Although previous studies have demonstrated the potential of PjBL in history education, most have focused on project implementation as a general active-learning strategy. Limited attention has been given to how project can be systematically structured using the disciplinary processes employed by historians. Consequently, there remains insufficient empirical evidence regarding whether integrating the historical method into the pedagogical design of PjBL can

more effectively foster students' historical thinking skills. This gap represents the primary motivation for the present study.

To address this gap, the present study integrates the historical method into each stage of Project-based Learning. Rader than functioning solely as project activities, students are guided to conduct historical inquiry through source collection, source, criticism, contextualization, interpretation, and historical reconstruction. The historical method provides an epistemic framework that enables students to critically examine historical evidence (Bloc, 1952), evaluate source credibility (S. S. Wineburg, 1991), interrogate authorship and perspective (S. Wineburg, 2006), contextualize historical events (Reisman & Wineburg, 2008), and construct historical explanations based on evidence (Burgos-Videla et al., 2025; Martin, 2012; Miralles-Sánchez et al., 2025). Integrating these disciplinary processes into PjBL is expected to transform project work from product-oriented activities into authentic historical inquiry.

Therefore, this study aims to examine the effectiveness of a Project-based Learning model integrated with the historical method in improving students' historical thinking skills. This study is important because it respond to continuing challenge of developing historical thinking through instructional approaches that move beyond factual learning toward disciplinary inquiry. Furthermore, this study contributes to the integration of the historical method and by providing empirical evidence for a structured instructional model that support the development of historical thinking.

Research Methods

This study represents the model-testing phase of a research and development (R&D) project aimed to evaluating the effectiveness of a Project-based learning (PjBL) model integrated with the historical method in improving students' historical thinking skills. The effectiveness of the model was examined using a quasi-experimental approach with a Non-equivalent Control Group Design. This design was selected because intact classroom groups were used without random assignment, allowing the intervention to be implemented under authentic school conditions while maintaining the existing classroom organization.

The participant consisted of 124 eleventh-grade students from SMAN 2 Selong, Lombok Timur, Nusa Tenggara Barat. The experimental group comprised 54 students from Classes XI-1 and XI-2, while the control group consisted of 70 students from Classes XI-3 and XI-4. Students in the experimental group received instruction using the Project-based Learning model integrated with the historical method, whereas those in the control group were taught using conventional history instruction.

Students' historical thinking skills were assessed using three sources of evidence: classroom observation sheets, analyses of students' project worksheets, and a historical thinking test developed by the researchers. The assessment instrument was constructed based on the History Learning Outcome of the Indonesian Independent Curriculum (Badan Standar Kurikulum dan Asesmen Kemendikbudristek, 2022) and further informed by Seixas' (2017a) frame work of historical thinking. The instrument measured nine dimensions of historical thinking: chronological (diachronic), synchronic, causal, imaginative, creative, critical, empathetic, reflective, and contextual thinking. Prior to implementation, both the learning model and the research instruments were evaluated for content validity through a Delphi technique followed by Focus Group Discussions (FGDs). The validation involved a panel of 25 expert judges comprising university lecturers with expertise in history education, educational technology, curriculum and instruction, and educational evaluation, as well as experienced history teachers.

The effectiveness of intervention was determined by comparing students' historical thinking scores between the experimental and control groups using an independent-sample t-test (Gravetter et al., 2020). Statistical analyses were conducted using IBM SPSS Statistics version 25.0 (Field, 2017), with statistical significance established at $p < 0.05$.

Research Result

Profile of students' historical thinking skills

The results of descriptive statistical analysis of data on students' historical thinking skills in the group learning using the integrated PjBL model with history methods and the group using the conventional model are presented in the following table 1:

Table 1. Profile of students' historical thinking skills

Kelompok	Group Number of Samples	Average Pretest	Average Posttest	Average Gain-Score
Integrated PjBL Integrated with Historical Method Model Group	54	38,28	87,96	80,28
Conventional Model Group	70	38,29	81,03	68,24

Source: Reseach Data, 2026

Table 1 above shows the average pretest scores indicating that both groups had equivalent initial abilities before being given treatment, with a score of 38.28 for the history-integrated PjBL group and 38.29 for the conventional group (a difference of 0.01). After the intervention was given, there was an increase in scores in both groups, but the history-integrated PjBL group recorded a more massive learning progress of 49.68 (posttest-pretest) outperforming the conventional group which only increased by 42.74 points. The superiority of this experimental model is emphasized by the average gain-score achievement of the history-integrated PjBL group which reached 80.28 compared to 68.24 in the conventional group. This shows that the integration of the history method into the PjBL model improves students' historical thinking skills higher than the conventional model, even though it is applied to a different number of samples.

The Effectiveness of the Integrated PjBL Model with History Methods in Improving Students' Historical Thinking Skills

Before testing the model's effectiveness, a data normality test was conducted using the Kolmogorov-Smirnov test because the sample size was >50 (Razali & Wah, 2011). The test results are presented in the following table 2:

Table 2. Results of Data Normality Test

Variable	Group	Kolmogorov-Smirnova		
		Statistic	df	Sig.
Historical Thinking	Experimen	0,119	54	0,055
	Control	0,087	70	0,200

Source: Reseach Data, 2026

Table 2 shows that the gain-score data are normally distributed, with a p-value of 0.055 for the experimental class and a p-value of 0.200 for the control class ($p > 0.05$). Furthermore, the results of the homogeneity of variance test using Levene's Test are presented in the following table 3:

Table 3. Results of data homogeneity test

Variable		Levene's Test for Equality of Variances	
		F	**Sig.**
Historical Thinking Skills	Equal variances assumed Equal variances not assumed	2,029	0,157

Source: Reseach Data, 2026

Based on table 3., the homogeneity of variance test using Levene's Test showed an F-value of 2.29 and p-value of 0.157 (p>0.05). This indicates that the data variance between the experimental and control groups is homogeneous. Therefore, the analysis continued using an independent sample t-test in the Equal Variance Assumed row. The test results are presented in the following table 2:

Tabel 4. Independent sample t-test results

Variable	t	df	Sig. (2-tailed)	Mean Difference
Historical Thinking Skills	7.083	122	.000	12.044

Source: Reseach Data, 2026

Based on table 4, the results of the Independent-sample t-test show that there is a significant difference in the increase in historical thinking skills between the two groups, with a t value (122) = 7.083 and a p value = 0.000 (p < 0.05). The Mean Difference value of 12.044 indicates that the experimental class experienced a higher average score increase than the control class. These results indicate that the integrated PjBL model with the history method has proven to be significantly effective in improving students' historical thinking skills.

Discussion

The findings demonstrate that the Project-Based Learning (PjBL) model integrated with historical methods significantly improved students' historical thinking skills compared with conventional instruction. While previous studies have reported the effectiveness of PjBL in history education (De La Paz & Hernández-ramos, 2013; Molina-Torres, 2025; Rahim et al., 2019), the present study suggests that its effectiveness is attributable not merely to project activities themselves but to systematic integration of disciplinary historical inquiry within each phase of the project. In other word, the improvement in students' historical thinking appears to result from the structured cognitive processes embedded in the historical method rather than from collaborative project work alone.

This finding supports the argument that historical thinking is not an intuitive competence that develops automatically through exposure to historical content. Instead, it requires explicit instructional guidance that gradually apprentices students into the epistemic practices or historians (Thorp & Persson, 2020; S. Wineburg, 2010; S. S. Wineburg, 1991). Previous studies have shown that novice leaners frequently experience difficulties when interpreting conflicting historical evidence, evaluating source credibility, or constructing evidence-based historical explanations (Loon et al., 2024; VanSledright, 2002). These difficulties are largely explained

by the absence of cognitive scaffolding that supports students throughout the inquiry process (Cox, 2018).

The present study indicates that integrating the historical method into PjBL addresses this instructional challenge by embedding scaffolding throughout the project cycle. Rather than allowing students to conduct project independently with minimal guidance, the historical method organizes learning into successive stages of historical inquiry, including heuristic investigation, source criticism, interpretation, and historiography. Each stage gradually increases students' responsibility while maintaining sufficient instructional support, thereby reducing cognitive overload that is frequently reported in minimally guided project-based learning environments (Kirschner et al., 2006). Consequently, project activities become structured opportunities for historical reasoning instead of merely producing learning products.

The integration of the historical method also changes the epistemic orientation of history learning. Conventional history instruction often positions students as recipients of historical narratives whose primary task is remembering historical facts. By contrast, the integrated model positions students as investigators who must formulate historical questions, locate relevant evidence, evaluate the credibility of source, compare multiple perspectives, and construct historical explanations supported by evidence. This transformation reflects the conception of disciplinary history proposed by Lévesque and Clark (2018), which emphasizes that learning history involves matering the processes through which historical knowledge is constructed rather than simply acquiring historical information.

This finding is also consistent with Whitehouse's (2015) integrated framework of historical reasoning, which argues that historical inquiry should proceed through interconnected procedural stages instead of isolated learning activities. In the present study, the historical method functioned as teh procedural syntax of PjBL by ensuring that students' project decisions were continously grounded in historical evidence. Consequently, students' final products represented the outcome of a coherent process of historical reasoning rather than creative presentations unsupported by historical sources.

The effectiveness of the model can also be explained through the contribution of each stage of the historical method to the development of historical thinking. During the heuristic stage, students collected and compared primary and secondary historical source, including documents, photographs, historical sites, films, and oral testimonies. Exposure to diverse historical evidence encouraged students to examine historical significance, continuity and change, causation, historical perspective, and ethical dimensions of history, as conceptualized by Seixas (2017b). Consistent with Nokes (2022), repeated engagement with multiple historical sources strengthened students' disciplinary historical literacy by requiring them to justify claims using evidence rather than personal opinion.

The subsequent source criticism stage further strengthened students' critical historical reasoning. Rather than accepting historical accounts as objective representations of the past, students evaluated source reliability, authorship, purpose, and potential bias. These findings reinforce previous studies demonstrating that authentic historical inquiry promotes students' ability to distinguish evidence from interpretation and to recognize the contructed nature of historical narratives (Levstik & Barton, 2005; Vansledright, 2008). Such activities encouraged students to engage in the same evaluative practices employed by professional historians.

Interpretation and historiography constituted the culminating stages of the inquiry process. Students synthesized evidence from multiple sources, reconciled contradictory information, and constructed coherent historical explanations that were subsequently communicated through reports, posters, and documentary videos. Importantly, oral testimonies collected during field investigations were systematically corroborated with documentary

evidence before being incorporated into students' final interpretations. This process reflects the principle that credible historical reconstruction depends upon corroboration among multiple sources rather than reliance on a single account (West, 2026). As argued by De La Paz and Felton (2010), learning environments centered on multiple-document reasoning substantially improve students' ability to formulate evidence-based historical arguments.

Overall, the findings extend previous research on Project-Based Learning by demonstrating that the effectiveness of PjBL in history education depends not only on collaborative project activities but also on the extent to which disciplinary historical inquiry is systematically embedded within the instructional design. The historical method provides the epistemic structure that transforms project into authentic historical investigations, enabling students to develop historical thinking through repeated engagement with sourcing, contextualization, corroboration, interpretation and evidence-based argumentation. These findings therefore contribute to the growing body of research advocating disciplinary approaches to history education and provide empirical support for integrating historical method as a pedagogical framework for fostering historical thinking.

Conclusion

This study demonstrates that integrating the historical method into Project-Based Learning (PjBL) is an affective pedagogical approach for improving students' historical thinking skills. Rather than functioning solely as a project-oriented instructional model, the integrated PjBL framework provides a structured inquiry process that guides students through heuristic investigation, source criticism, interpretation, and historiography. These disciplinary learning experiences enable students to engage in authentic historical inquiry while developing key dimensions of historical thinking, including chronological, synchronic, causal, imaginative, creative, critical, empathetic, reflective, and contextual thinking.

Beyond confirm the effectiveness of Project-Based Learning, this study contributes to history education by demonstrating that the pedagogical value of PjBL depends on the integration of a structured disciplinary framework. Embedding the historical method within each phase of project work transform project from product-oriented activities into evidence-based historical investigation, thereby supporting the development of historical reasoning rather than merely increasing student engagement. The findings have practical implications for history teachers seeking to move beyond factual and textbook-oriented instruction. Integrating the historical method into project-based activities offers a feasible instructional strategy for engaging students in authentic historical inquiry while systematically fostering historical thinking skills.

This study has several limitations. The intervention was conducted in a single school, which may limit the generalizability of the findings to other educational contexts. In addition, although the research instruments underwent expert validation through the Delphi technique and Focus Group Discussion, their psychometric properties have not yet been established through large-scale empirical testing. Future studies should therefore examine the effectiveness of this instructional model across more diverse educational settings and evaluate the measurement instruments using broader empirical validation procedures to strengthen the external validity and generalizability of the findings.

Acknowledgements

The author would like to express his deepest gratitude to the principal, history teachers and all students who were actively involved and collaborated extraordinarily in all stages of implementing the learning model in this study.

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