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## DEVELOPING RESEARCH-ORIENTED TEACHING PRACTICE AND RESEARCH CULTURE OF FUTURE HISTORY TEACHERS THROUGH LESSON STUDY

**Abstract.** This study examines the development of research-oriented teaching practice and research culture in the preparation of future history teachers within the framework of contemporary research-based teacher education. The research addresses the persistence of reproductive and teacher-centered models of pedagogical training that often emphasize lesson delivery rather than inquiry into students' learning, historical reasoning, and disciplinary thinking. In this context, Lesson Study is considered not as an end, but as a pedagogical and research tool supporting the formation of reflective, inquiry-oriented, and evidence-informed professional competencies among pre-service history teachers.

The study employed a qualitative practitioner-research design involving future history teachers participating in Lesson Study cycles during their pedagogical practicum. Data were collected through reflective journals, lesson observations, interviews, lesson plans, students' written responses, and collaborative reflection transcripts. Thematic analysis was used to identify changes in pedagogical thinking, reflective practice, inquiry-oriented instruction, and approaches to historical thinking.

The findings demonstrate that participation in collaborative lesson inquiry contributed to the transition from descriptive reflection toward analytical and evidence-informed pedagogical reasoning. Future history teachers increasingly focused on students' interpretation of historical evidence, argumentation, source analysis, and inquiry-based learning processes. The study also revealed that Lesson Study supported the development of collaborative professional learning, practitioner inquiry, and research culture within teacher preparation. Particular significance of the research lies in the integration of Lesson Study into graduation research projects of final-year students, which enabled the connection between academic research, pedagogical reflection, and classroom practice.

**Keywords:** history teacher education, Lesson Study, research-oriented teaching, reflective practice, practitioner inquiry, historical thinking, inquiry-based learning, civic education, collaborative professional learning, research culture.

### Introduction

Over the past three decades, significant changes have occurred in approaches to teacher education. Contemporary research demonstrates that effective teaching can no longer be reduced to mastering a set of instructional techniques for content delivery, a tendency that is also reflected in the current regulatory framework of the Republic of Kazakhstan. In particular, the State Mandatory Standard of Higher and Postgraduate Education of the Republic of Kazakhstan emphasizes a competency-based model of education, the development of students' research, analytical, and reflective competencies, the integration of theoretical preparation with pedagogical practice, and the implementation of student-centered and research-oriented approaches (Ministry of Science and Higher Education of the Republic of Kazakhstan, 2022).

Additional significance is attached to the Professional Standard for Teachers of the Republic of Kazakhstan, approved by Order No. 31 of the Minister of Education of the Republic of Kazakhstan on February 24, 2025, which highlights the importance of research, methodological, and reflective dimensions of pedagogical activity (Ministry of Education of the Republic of Kazakhstan, 2025). The standard defines professional competencies related to the design and implementation of educational activities and emphasizes

continuous professional development, analysis of learning outcomes, and the application of contemporary pedagogical approaches.

The professional standard specifically stresses the need to design educational activities based on the analysis of achieved learning outcomes, employ research and experimental skills, develop methodological materials, disseminate best teaching practices, and engage in mentoring. Furthermore, teachers are expected to apply innovative methodologies, contemporary approaches, and digital technologies, while planning instruction based on research findings and students' individual educational needs. Thus, the regulatory framework of teacher education in Kazakhstan reinforces the demand not only for methodologically competent teachers but also for professionals capable of investigating their own practice, interpreting educational data, and making pedagogical decisions based on evidence-informed reasoning.

An analysis of contemporary teacher professional development programs indicates that effective professional learning is characterized by content focus, active participation, collaborative engagement, the use of models of practice, coaching and expert support, as well as feedback and reflection (Arani et al., 2007; Darling-Hammond et al., 2017; Friedrich, 2017). These characteristics – particularly active participation, collaboration, and reflection – often contrast with traditional professional development models based on lecture formats detached from authentic classroom practice. Research on professional learning communities emphasizes that educators should examine their own practice, evaluate its impact on student learning, and use the findings to improve instruction. Such communities provide a robust foundation within which teachers collaboratively design lessons, identify research strategies, analyze learning outcomes, and revise instructional decisions through collective reflection (Pirtle & Tobia, 2014).

Against this background, teacher education is increasingly shifting from reproductive models of preparation toward inquiry-based and research-oriented teacher education. Within this paradigm, Lesson Study is viewed not merely as a form of peer observation but as a mechanism for collaborative inquiry, practitioner research, and reflective professional learning. Originating in the Japanese educational system, Lesson Study is based on the collaborative design, observation, analysis, and revision of a research lesson using evidence derived from students' learning activities. Unlike traditional models of methodological training, Lesson Study focuses less on evaluating teacher performance and more on investigating students' learning processes, thinking, and interactions. This makes the approach particularly valuable for developing research-oriented teaching practice and fostering the research culture of future history teachers (Lewis et al., 2006; Dudley, 2014).

Contemporary studies indicate that Lesson Study in teacher education programs is most commonly implemented as a practicum-centered model embedded within pedagogical practice, mentoring, and collaborative lesson planning. In their systematic review of English-, Japanese-, and Chinese-language studies, Tan, Goei, and Willemse (2024) identified diverse forms of Lesson Study in initial teacher education and highlighted challenges related to mentoring relationships, institutional integration, and cultural adaptation. Similarly, Almacioğlu and Arslan (2026) describe Lesson Study as a mechanism for developing professional vision, reflection, collaborative learning, and the capacity of pre-service teachers to analyze student learning rather than merely their own teaching behavior.

Particular attention has been given to studies linking Lesson Study with the development of research culture among pre-service teachers. Botes, Moreeng, and Mosia (2022) demonstrate that Lesson Study creates a safe environment for collaborative lesson planning, discussion of pedagogical challenges, and post-lesson reflection. For the Kazakhstani context, the work of Yermekbayeva, Kuzembayeva, Maydangalieva, and Goncharenko (2024) is especially relevant. Examining research-based learning in Kazakhstan's pre-service teacher education, the authors argue that the development of research competence requires systematic engagement with formulating research questions, reviewing literature, selecting methodologies, collecting data, and interpreting findings. In this regard, Lesson Study may be viewed as an applied form of research-based learning because it translates research preparation from an abstract academic activity into the analysis of authentic classroom practice.

The literature on historical thinking pedagogy and inquiry-based history education likewise emphasizes the need for disciplinary adaptation of Lesson Study in the preparation of history teachers. Van Boxtel, Voet, and Stoel (2021) argue that inquiry learning in history involves posing authentic historical questions, reading, analyzing, and synthesizing multiple sources, and constructing interpretations of the past.

Kainulainen, Puurtinen, and Chinn (2025) further contend that inquiry-based history learning should reflect a broader understanding of historians' practices, including archival work, language use, tools, epistemic virtues, and the social processes involved in the production of historical knowledge. Miralles-Sánchez, Rodríguez-Medina, and Sánchez-Ibáñez (2024) demonstrate that historical thinking requires deliberate pedagogical design, active learning strategies, and connections to citizenship education. Similarly, López-Fernández, Tirado-Olivares, Mínguez-Pardo, and Cózar-Gutiérrez (2023) show that active pedagogies and historical thinking approaches can contribute significantly to the development of students' critical thinking.

Kager, Kalinowski, Jurczok, and Vock (2024) note that many Lesson Study studies provide insufficiently transparent descriptions of observation and reflection stages, the types of evidence collected, and the procedures used for data analysis. Therefore, the present study explicitly focuses on describing data sources, coding procedures, thematic analysis categories, triangulation strategies, peer debriefing, and audit trails. Methodologically, this approach is consistent with the framework of thematic analysis proposed by Braun and Clarke (2021), as well as the criteria of credibility, transferability, dependability, and confirmability commonly employed in qualitative research to ensure trustworthiness (Ahmed, 2024; Stahl & King, 2020).

The literature review reveals several important research gaps. First, most contemporary studies on Lesson Study in initial teacher education focus on mathematics, science, or language education, where research lessons are typically analyzed through the lens of subject-matter explanation, classroom interaction, student engagement, or professional noticing. Second, even within studies on pre-service teacher education, Lesson Study is often examined as a means of supporting pedagogical practice, improving lesson planning, and developing reflective skills rather than as a mechanism for fostering a sustainable research culture among future teachers. Third, research on historical thinking pedagogy and inquiry-based history education provides detailed accounts of evidence use, source analysis, contextualization, corroboration, and argumentation but rarely connects these disciplinary practices to the cyclical process of collaborative lesson inquiry characteristic of Lesson Study.

The originality of the present study lies in integrating four research traditions that are typically examined separately: Lesson Study in teacher education, pre-service teacher research culture, historical thinking pedagogy, and qualitative evidence in teacher professional learning. The article demonstrates how future history teachers, during their pedagogical practicum, move beyond describing lessons toward analyzing learning evidence specifically related to students' historical thinking, including source interpretation, causal reasoning, comparison of historical perspectives, and argument construction.

Moreover, the study situates Lesson Study within the context of undergraduate thesis development, enabling it to be viewed as a bridge between academic research, pedagogical practicum, and classroom-based practitioner inquiry. Unlike studies that primarily describe Lesson Study as a mechanism for improving lesson planning, classroom management, or general pedagogical reflection, the present research demonstrates how Lesson Study can be directed specifically toward the analysis of students' historical thinking. The study also offers a novel perspective by conceptualizing Lesson Study as a mechanism for developing the research culture of future history teachers. In this study, research culture is understood not merely as the ability to read academic literature or write a thesis but as a professional disposition to formulate research questions about one's own teaching practice, collect qualitative evidence, discuss findings collaboratively, revise lesson design, and connect pedagogical decisions to evidence about students' learning processes.

This research gap is particularly significant within the context of teacher education in Kazakhstan, where policy documents increasingly emphasize the development of teachers' research, analytical, and reflective competencies, while discipline-specific mechanisms for their implementation in history teacher education remain underdeveloped. The present study contributes to the existing literature by examining Lesson Study not only as a professional learning model but also as a tool for fostering a subject-specific research culture among future history teachers in authentic classroom settings. Such an approach connects the broader agenda of research-oriented teacher education with the disciplinary demands of history teaching, where source analysis, evidence interpretation, historical reasoning, and the development of responsible civic attitudes toward the past occupy a central position.

The purpose of this study is to examine the potential of Lesson Study for developing research-oriented

teaching practice and fostering the research culture of future history teachers. Specifically, the study seeks to answer the following research question: How does participation in Lesson Study influence the development of research-oriented teaching practice among future history teachers?

### **Research Methodology and Methods**

The present study aimed to examine how participation in Lesson Study contributed to future history teachers' understanding and rethinking of teaching practices oriented toward the development of students' historical thinking. Accordingly, the research question focused on how participants' perceptions of the content, organization, and assessment of learning activities designed to foster historical thinking evolved through the processes of collaborative lesson planning, observation, discussion, and revision of research lessons. Unlike the earlier formulation of this section, the revised version consistently distinguishes between the overall research focus of the study and the analytical focus emerging at particular stages and cycles of the Lesson Study process.

The study employed a qualitative, interpretive, and practice-oriented research design and was grounded in Lesson Study as a form of collaborative professional inquiry embedded within pedagogical practice. This choice was informed by the contemporary literature, which conceptualizes Lesson Study not as a tool for external teacher evaluation but as a structured process of collaborative investigation of teaching and learning that integrates lesson planning, implementation of a research lesson, observation of student learning, collective interpretation of evidence, and subsequent lesson improvement (Lewis et al., 2006; Dudley, 2014; Lewis et al., 2019). Within initial teacher education programs, practicum-centered models of Lesson Study are particularly valuable because they connect pedagogical experimentation, an inquiry stance, and the analysis of authentic evidence concerning students' learning processes (Tan et al., 2024). The adoption of a qualitative practitioner-research design is also aligned with the traditions of reflective practice and the teacher-as-researcher approach, which regard professional knowledge as emerging not only from the application of established theory but also from systematic reflection on one's own practice and its empirical manifestations (Schön, 1983; Stenhouse, 1975; Elliott, 1991). A more comprehensive theoretical framework is presented in a separate section of the article; only those concepts directly informing the research design, data collection procedures, and analytical strategies are discussed here.

From a disciplinary perspective, the study was grounded in the understanding of historical thinking as a domain-specific set of practices for engaging with the past, including the analysis of historical significance, the use of evidence, the identification of continuity and change, causal reasoning, perspective-taking, and ethical reflection on historical interpretations (Seixas & Morton, 2013). Contemporary research on inquiry learning in history suggests that learning in this field involves not the reproduction of predetermined historical narratives but the construction and evaluation of interpretations of the past through engagement with questions, multiple sources, reasoning, and argumentation (Wineburg, 2001; Van Boxtel et al., 2021). Consequently, the study adopted historical thinking as its overarching research focus throughout all Lesson Study cycles, whereas analytical distinctions such as source interpretation, evidence-based argumentation, and student historical reasoning were employed at a more applied level to guide observation, analysis, and lesson revision.

The study was conducted within the context of pedagogical practicum and involved seven participants: five undergraduate students and two master's students enrolled in history teacher education programs. The group worked collaboratively over a fifteen-week practicum period, during which participants repeatedly planned, taught, observed, discussed, and revised research lessons. This context reflects the trend identified in international scholarship toward integrating Lesson Study into initial teacher education as a means of fostering an inquiry stance, professional noticing, and stronger connections between university-based preparation and school practice (Tan et al., 2024; Van Katwijk et al., 2023; Matjašič & Vogrinc, 2024).

Given the qualitative and context-dependent nature of the study, the sample was not intended to be statistically representative. Its rationale was based on the principle of substantive relevance: all participants were engaged in authentic history teaching practice, had opportunities to complete the full cycle of collaborative planning and reflection, and simultaneously occupied the roles of future teachers and research participants. In this sense, the study sought not statistical generalization but an analytically rich description of professional learning processes within a particular educational setting, consistent with the aims of

qualitative inquiry in educational research (Lincoln & Guba, 1985; Stahl & King, 2020).

To avoid terminological ambiguity, this article makes a clear distinction between stages and cycles. Stages refer to the six sequential procedural steps within a single Lesson Study cycle, whereas cycles denote complete repetitions of the six-stage process throughout the study. Thus, the research involved multiple Lesson Study cycles, each consisting of the same six stages: (1) identifying the research focus; (2) collaboratively designing the research lesson; (3) developing an observation protocol; (4) implementing the research lesson while other participants conducted observations; (5) conducting a post-lesson discussion based on the collected evidence; and (6) revising the lesson plan and formulating implications for the subsequent cycle. This distinction is consistent with the theory and international practice of Lesson Study, where a cycle is understood as a recurring iteration of inquiry, planning, teaching, and reflection, while the stages specify the internal organization of collaborative work within each iteration (Lewis et al., 2006; Lewis et al., 2019; Dudley, 2014).

During the first stage of each cycle, the group identified a research focus that remained constant throughout the study and was centered on students' historical thinking. During the second stage, participants collaboratively designed the research lesson by specifying learning objectives, tasks, anticipated student responses, and potential areas of difficulty. During the third stage, an observation protocol was developed that focused not primarily on teacher actions but on manifestations of student learning processes. Observers documented how students read and interpreted sources, what forms of evidence they employed, how they formulated explanations and arguments, where difficulties emerged, whether they progressed from description to interpretation, and how they responded to alternative perspectives and evidence. This shift in attention from teacher performance to student learning is considered one of the defining methodological features of Lesson Study and is particularly important in initial teacher education, where observation is often reported in overly general and insufficiently transparent ways (Dudley, 2014; Larssen et al., 2018; Kager et al., 2024).

At the fourth stage, one participant taught the research lesson while the remaining members of the group acted as observers. Observation was conducted according to the previously agreed protocol, and the collected data included students' written and oral responses, time-stamped records of significant episodes, moments when difficulties emerged, patterns of source use, and forms of evidential reasoning. During the fifth stage, a post-lesson discussion was conducted using reflective journals, observation notes, student written responses, lesson artefacts, and, where available, transcripts of collaborative discussions. It was at this stage that the analytical focus deepened most noticeably: the group moved from discussing the overall organization of the lesson and task structure toward a more discipline-specific examination of source interpretation, evidence-based argumentation, and student historical reasoning. Finally, during the sixth stage, the lesson plan was revised and the findings were translated into hypotheses and practical decisions for the subsequent cycle. In other words, students' historical thinking remained the overarching research focus throughout the study, while the analytical focus became progressively more specific as empirical evidence accumulated and the process evolved from planning to observation and subsequently to collective interpretation of data.

This logic helps eliminate the conceptual confusion between stages and cycles. Stages do not represent separate or independent research foci; rather, they denote the sequence of actions within a single Lesson Study cycle. The analytical focus, in contrast, is not mechanically attached to any individual stage but develops and becomes refined through transitions between planning, observation, and post-lesson discussion. In the early cycles, analytical attention naturally concentrated on the overall lesson structure and the extent to which tasks made historical thinking visible. In later cycles, following the accumulation of evidence and the revision of instructional designs, the analysis became more discipline-specific and increasingly focused on source interpretation, evidence-based argumentation, and manifestations of students' historical reasoning. Such progressive refinement is consistent with contemporary understandings of inquiry learning in history, according to which tasks, sources, and instructional scaffolds should be aligned with the intellectual processes that teachers and researchers seek to promote among students.

Data collection was organized as a multi-component process and extended across all Lesson Study cycles. The data corpus included original and revised lesson plans; observation protocols and observation notes recorded during research lessons; participants' reflective journals; materials from post-lesson

discussions and collaborative reflections; semi-structured interviews conducted after completion of the practicum; student written responses, student feedback, and lesson artefacts produced during classroom activities. This range of sources enabled the researchers to document both the intended lesson design and the learning processes actually observed among students, thereby facilitating comparisons between instructional intentions, classroom implementation, and subsequent interpretations of outcomes. In Lesson Study research, such data richness is considered particularly valuable because it links observation, pedagogical reflection, and evidence-based lesson revision.

To enhance transparency and analytical coherence, all materials were organized within an analytical matrix that functioned not as an independent method but as a tool for systematization. Within the matrix, each unit of data – a lesson-plan excerpt, observation note, reflective journal entry, participant statement from a post-lesson discussion, or student written response – was linked to: (a) the corresponding Lesson Study stage and cycle; (b) the data source; (c) the observed event or statement; (d) a preliminary code; (e) an analytical category; and (f) an interpretation related to the development of historical thinking. This organizational structure facilitated the comparison of evidence from multiple sources, the identification of recurring patterns, and a more transparent transition from empirical observations to analytical conclusions. Such an approach is consistent with contemporary expectations regarding the reporting of observation and reflection stages in Lesson Study research and broader standards of transparency in qualitative analysis.

**Table 1.**  
*Data Sources and Analytical Matrix*

<b>Data Source</b>	<b>What Was Recorded</b>	<b>Timing of Collection</b>	<b>Analytical Function</b>	<b>Position in the Analytical Matrix</b>
<b>Original and revised lesson plans</b>	Learning objectives, tasks, anticipated responses, modifications after discussion	Before and after each research lesson	Comparison of lesson intentions and revisions	Stage/cycle, design decision, code, category, interpretation
<b>Observation protocol and observation notes</b>	Student responses, source use, learning difficulties, argumentation, time markers	During the research lesson	Documentation of students' learning processes	Stage/cycle, observation episode, code, category, interpretation
<b>Participants' reflective journals</b>	Individual reflections, uncertainties, professional insights	After the lesson and discussion	Identification of changes in professional understanding	Stage/cycle, reflective excerpt, code, category, interpretation
<b>Post-lesson discussion and collaborative reflection materials</b>	Collective interpretation of observations, proposals for lesson revision	Immediately after the lesson	Transition from observation to explanation and decision-making	Stage/cycle, discussion excerpt, code, category, interpretation
<b>Semi-structured interviews</b>	Retrospective evaluation of Lesson Study and professional learning	After completion of the practicum	Synthesis of perceived changes and limitations	Source, theme, code, category, interpretation
<b>Student written responses, feedback and lesson artefacts</b>	Written responses, arguments, interpretations, use of evidence	During and after the lesson	Examination of observable manifestations of historical thinking	Episode, artefact, code, category, interpretation

*Note. The table reflects the original logic of data collection, retained and refined during the revision of the methodology section. The analytical matrix functioned as a tool for comparing lesson design, observation, reflection, and student artefacts rather than as an independent methodological framework.*

Data analysis was conducted as a staged thematic analysis adapted to the aims of the study and organized into five interconnected steps. It is important to emphasize that the five-step framework used in

this study represents an operationalization of the broader procedures of thematic analysis described by Braun and Clarke and Nowell et al.; it was selected not to simplify the method but to ensure that the analytical procedures remained proportional to the data corpus and clearly aligned with the logic of Lesson Study (Braun & Clarke, 2021; Nowell et al., 2017).

The first step involved immersion in the data through repeated reading of all materials, preparation of analytical memos, and preliminary comparison of data sources. During the second step, open coding was conducted. Data excerpts were assigned codes related to lesson organization, work with historical sources, argumentation, student difficulties, changes in instructional decisions, and participants' reflections. The third step focused on grouping codes into preliminary categories and broader conceptual clusters. During the fourth step, these categories were compared across multiple data sources within the analytical matrix, discussed among members of the research team, and refined through consideration of convergent evidence, contradictions, and negative cases. The fifth step involved the generation of final themes and subthemes, which subsequently formed the basis for the presentation and discussion of the findings.

Within this process, the analytical matrix functioned as a bridging mechanism between coding and interpretation. It enabled not only thematic grouping of the data but also identification of situations in which the same phenomenon manifested differently across sources. For example, a lesson plan might incorporate opportunities for evidence-based argumentation, while observation notes indicated limited implementation of this objective, and student written responses demonstrated only partial understanding of the task. Such cross-source comparison prevented a linear reading of individual datasets and supported a more robust interpretation of recurring and divergent patterns. Consistent with principles of qualitative rigor, codes and preliminary categories were discussed among multiple researchers, while reflective notes were used to document assumptions associated with the dual role of the researcher as both a participant in the professional learning community and an analyst of the data.

To ensure trustworthiness, the study was guided by the classical criteria of credibility, transferability, dependability, and confirmability proposed by Lincoln and Guba (1985), as well as their subsequent application in educational research (Stahl & King, 2020). Credibility was strengthened through methodological and data-source triangulation. Findings were not derived from a single form of evidence but emerged through comparison of lesson plans, observation records, reflective journals, post-lesson discussions, interviews, and student artefacts. Researcher triangulation was achieved through collaborative examination of codes, categories, and analytical interpretations within the research team. Dependability was supported by maintaining a systematic audit trail: the analytical matrix, coding versions, analytical memos, and revised lesson plans made it possible to reconstruct the progression from raw data to final conclusions. Confirmability was enhanced through reflective documentation of researchers' expectations, professional assumptions, and potential biases. Transferability was supported through rich description of the context, participants, procedures, and analytical processes, allowing readers to judge the applicability of the findings to similar settings in initial teacher education.

Reflexivity held particular importance in this study because participants and researchers were engaged in a shared professional process. Consequently, interpretation of the data could not be regarded as neutral in a positivist sense. Reflective journals and analytical memos were therefore treated not as supplementary materials but as integral components of methodological transparency. They enabled researchers to make explicit the foundations of their interpretations and to distinguish between empirically observed phenomena and analytically derived conclusions. At the same time, this procedure was consistent with the principles of reflective practice, in which professional learning and change are documented through deliberate reconsideration of one's actions, decisions, and their consequences within educational contexts (Schön, 1983; Braun & Clarke, 2021).

From an ethical perspective, the study was guided by the principles of voluntary participation, confidentiality, informed consent, and data anonymization. During data processing, all participant names, school names, and any information that could identify individual students were removed or anonymized. Student written responses and lesson artefacts were used exclusively for analytical purposes and were not incorporated into assessment procedures. Because the study is qualitative and context-dependent in nature, its findings are intended to support analytical rather than statistical generalization. This limitation does not diminish the value of the study but establishes an appropriate framework for interpreting the results.

During the preparation of the manuscript, the authors used ChatGPT (OpenAI, GPT-5.5) as an auxiliary tool for academic language refinement, translation support, and improvement of text coherence. The use of artificial intelligence was limited to editorial assistance and did not involve the generation of empirical data, analytical results, or scientific conclusions. All research design, interpretation, and final decisions regarding the content of the article were made by the authors, who assume full responsibility for the integrity and accuracy of the study.

### **Results and discussion**

To ensure analytical transparency, this section is structured around three interconnected levels of analysis. The first level presents the empirical findings of the study and documents changes identified in reflective journals, lesson plans, observation protocols, collaborative discussions, and student responses. The second level explicates the evidentiary basis of these findings by linking interpretations to specific thematic categories and data sources. The third level situates the findings within the broader literature on Lesson Study, research-based teacher education, historical thinking pedagogy, and qualitative practitioner research. This structure enables a systematic demonstration not only of what changes were identified, but also of how these changes were established and interpreted.

The relevance of such an approach is closely connected to the nature of history education. Unlike disciplines primarily concerned with the reproduction of knowledge, history education seeks to develop a complex set of intellectual practices associated with the analysis of the past. Within the framework of the Historical Thinking Project, historical thinking is understood as the ability to determine the historical significance of events, analyze causes and consequences, identify continuity and change, work with historical sources, and consider the ethical dimensions of historical experience. Historical literacy, in this context, is not viewed as the accumulation of factual knowledge but as the capacity to critically evaluate historical claims, assess the reliability of sources, and use historical evidence in constructing interpretations and conclusions (Seixas, 2006). This perspective has become widely accepted within contemporary scholarship on historical literacy and history education.

A significant contribution to understanding the nature of historical thinking was made by Sam Wineburg, who conceptualized historical thinking as a disciplinary practice fundamentally different from everyday reasoning. According to Wineburg, interest in the past may be natural, but historical understanding requires specialized intellectual procedures involving critical source analysis, evaluation of interpretations, and comparison of different forms of evidence (Wineburg, 2001). Furthermore, Wineburg highlighted the dangers of presentism, the uncritical projection of contemporary values and assumptions onto the past – which can hinder meaningful historical explanation and interpretation (Wineburg, 1991). Consequently, the preparation of future history teachers should extend beyond mastery of subject content and include the ability to investigate how students develop historical thinking, analyze patterns of reasoning, and design learning environments that foster evidence-based historical reasoning.

This issue becomes particularly important within the context of citizenship education. History education serves not only a cognitive but also a social function by cultivating students' capacity to critically examine social processes, evaluate the consequences of historical decisions, and participate responsibly in civic life. A historically literate citizen is capable of recognizing the complexity of historical experience, identifying manipulative interpretations of the past, and understanding the influence of historical memory on contemporary society. Therefore, the development of historical thinking constitutes an essential condition for fostering civic responsibility and a culture of democratic dialogue.

Despite growing interest in research-based teacher education and reflective practice, numerous studies indicate that many teacher education programs continue to retain a predominantly reproductive orientation. Within such models, emphasis is placed on lesson organization and delivery, while students' learning processes and the mechanisms through which thinking develops remain peripheral to professional analysis. Research on teacher education suggests that the concepts of the teacher-researcher and the reflective teacher emerged precisely as attempts to bridge this divide between teaching and the systematic investigation of educational practice (Fagundes, 2016). Nevertheless, the integration of research activities into teacher education remains fragmented in many contexts. As a result, future teachers frequently focus on implementing curricula and delivering lessons rather than analyzing evidence related to student learning.

This contradiction is particularly visible in history education, where novice teachers often reproduce textbook narratives and traditional instructional approaches instead of organizing inquiry-based learning and evidence-based historical inquiry.

In this context, Lesson Study is of particular interest as a form of professional inquiry into teaching practice. Originating in Japan as *jūgyō kenkyū* (“lesson research”), Lesson Study was initially conceived as a collaborative process in which teachers jointly identify a research problem, design a lesson, observe students’ learning activities, analyze evidence, and refine subsequent instructional decisions. Contemporary research suggests that the effectiveness of Lesson Study extends beyond improving individual lessons and includes the development of sustainable mechanisms of professional learning grounded in collaborative analysis, reflection, and investigation of student learning processes (Lewis et al., 2019). Unlike traditional peer observation models, Lesson Study focuses not on evaluating the teacher but on examining how students engage with content, interpret information, and solve learning tasks.

Peter Dudley conceptualizes Lesson Study as a highly structured form of classroom action research aimed at developing teachers’ professional knowledge through systematic investigation of student learning (Dudley, 2014). Such a perspective allows Lesson Study to be understood not merely as a teaching technique but as a form of collaborative inquiry and practitioner research. Its significance derives from the integration of several characteristics associated with effective professional learning: subject specificity, collaborative analysis, active participation, reflection, and cyclical improvement of practice. Within Lesson Study, professional knowledge emerges not through the transmission of predetermined recommendations but through the analysis of authentic evidence concerning student learning and the collective interpretation of educational outcomes. For this reason, the approach holds particular promise for the preparation of future history teachers whose professional work is closely connected to fostering students’ disciplinary thinking.

Despite the widespread adoption of Lesson Study internationally, its potential for developing the research culture of future history teachers remains insufficiently explored. Most existing studies focus on improving subject-specific instruction, enhancing professional reflection, or organizing collaborative professional learning. Considerably less attention has been devoted to understanding how Lesson Study contributes to the development of research-oriented teaching practice specifically within history education, where the primary object of inquiry is students’ historical thinking. This gap highlights the need for more detailed examination of the relationships among Lesson Study, analytical reflection, evidence-informed pedagogical reasoning, and the development of research culture among future history teachers.

To strengthen the empirical grounding of the study, findings were generated through thematic analysis of data collected from multiple complementary sources, including reflective journals, lesson plans, observation protocols, student artefacts, interviews, planning sessions, and collaborative reflection transcripts. The use of diverse forms of evidence made it possible not only to identify changes in participants’ professional thinking but also to trace the mechanisms through which those changes emerged during Lesson Study. Unlike traditional accounts of teaching practicum experiences, the analysis focused on identifying recurring analytical categories that reflected the transformation of research-oriented pedagogical practice among future history teachers.

The thematic analysis revealed several interconnected dimensions of professional development, reflecting changes in pedagogical reflection, decision-making processes, understandings of historical thinking, and attitudes toward research. Importantly, these categories were not predetermined on the basis of existing theoretical models. Rather, they emerged inductively through analysis of reflective journals, observation protocols, lesson plans, student artefacts, interviews, and collaborative discussions. At the same time, the resulting categories demonstrated strong conceptual alignment with contemporary research on Lesson Study, practitioner inquiry, and research-oriented teacher education.

The most prominent trend was a transition from descriptive to analytical reflection. Initially, participants tended to focus on external aspects of teaching, such as lesson pace, classroom organization, adherence to timing, and their own actions as instructors. However, as Lesson Study progressed, the content of reflective writing changed substantially. Attention shifted from teacher behaviour toward students’ thinking, the nature of their difficulties, and the relationships between pedagogical decisions and learning outcomes. The analysis demonstrated that participants increasingly viewed classroom evidence as a resource for improving future instruction rather than as a record of lesson implementation.

A second recurring theme was the development of evidence-informed pedagogical reasoning. In contrast to traditional practice, where pedagogical decisions are often based primarily on intuition or accumulated experience, participants increasingly relied on observation data, students' written responses, and analyses of historical sources as a basis for modifying lesson design. As a result, instructional decisions were progressively justified not by personal preferences but by concrete evidence collected during the research lesson.

A third category was associated with the development of source-based historical inquiry. Participants gradually moved away from using historical sources as merely illustrative materials and began to treat them as instruments of historical investigation. Revised lesson plans included a growing number of tasks requiring students to examine the origin of sources, their historical context, authorial perspective, and reliability. A transition was observed from the analysis of single documents to the comparison of multiple sources and discussion of discrepancies among them.

A fourth theme reflected the development of collaborative professional learning. During the initial stages, interaction among participants was largely limited to the distribution of responsibilities and discussion of organizational issues. Over time, however, collaborative discussions increasingly took the form of collective professional inquiry. Participants learned to pose clarifying questions, analyze evidence, critically examine assumptions, and jointly develop decisions concerning modifications to lesson design.

Finally, a distinct category concerned the development of elements of research culture. Analysis of thesis materials, research notes, and reflective journals demonstrated that Lesson Study gradually came to be perceived not only as a means of improving instruction but also as a method of generating research data. Participants began to formulate research questions, systematically collect evidence, document observations, and interpret findings within the context of their professional development.

Particularly revealing was the pattern of change documented in participants' reflective journals. Analysis of these journals showed that professional learning did not occur as an immediate transformation. Rather, change developed gradually through increasingly sophisticated ways of interpreting pedagogical experience.

During the first Lesson Study cycle, participants' reflections focused predominantly on their own performance as teachers. Most comments concerned lesson organization, time management, classroom discipline, and the quality of explanation. Typical statements included: "I explained the material too quickly," "Time should be distributed more effectively between lesson stages," and "Students were not sufficiently active." Such comments exemplify procedural reflection, in which the primary object of analysis is the teacher's own activity.

During the second cycle, a gradual shift toward the analysis of students' learning difficulties became evident. Reflective journals increasingly included observations related to students' understanding of tasks, interpretation of historical sources, and construction of arguments. Participants began to document not only what occurred during the lesson but also potential reasons underlying observed difficulties. For example, one participant noted that students were able to complete a task but were unable to explain why they considered a particular source trustworthy. Observations of this kind prompted revisions to lesson structure and the introduction of questions addressing source origin, authorship, purpose, and historical context.

The most substantial changes were observed during the third Lesson Study cycle. By this stage, reflection had acquired a distinctly analytical character and became oriented toward the interpretation of evidence. Participants began connecting observable features of students' historical thinking with specific elements of lesson design. They examined how teachers' questions influenced the quality of student argumentation, which tasks supported the development of sourcing and corroboration, and which tasks limited opportunities for historical reasoning.

The following excerpt from a reflective journal is particularly illustrative: "When analyzing the photograph, students focused almost exclusively on political leaders and paid little attention to representatives of other social groups. This suggests that the question directs them toward identifying obvious information and therefore requires revision". In this case, the participant's attention was directed not toward personal teaching performance but toward the mechanism linking instructional design and students' historical thinking. Another participant observed: "We initially assumed that the problem stemmed from insufficient factual knowledge. However, students' written responses indicated that they struggled to use the

source as evidence". Statements of this kind demonstrate a shift toward evidence-informed reasoning, in which pedagogical conclusions are derived from empirical evidence rather than prior assumptions.

The findings indicate a gradual transformation in the very nature of pedagogical reflection. Whereas reflection initially functioned primarily as a form of teacher self-evaluation, it increasingly became a tool for investigating learning processes. In other words, participants came to view the lesson not as an opportunity to assess their own effectiveness but as a context for examining how students construct historical knowledge, use evidence, and develop arguments.

This transformation is consistent with Donald Schön's conception of the transition from technical rationality to reflective professional practice. Through Lesson Study, future teachers gradually moved beyond a simplified understanding of teaching as the transmission of knowledge and began to perceive the lesson as an inquiry situation requiring continuous analysis, interpretation, and revision of pedagogical decisions. These findings also align with the ideas of Lawrence Stenhouse, who viewed teachers as researchers of their own practice and as creators of professional knowledge through systematic inquiry.

Changes in professional reflection were accompanied by a noticeable transformation of lesson planning and instructional design. Analysis of original and revised lesson plans demonstrated that Lesson Study influenced not only the interpretation of evidence but also participants' understanding of the structure of history lessons themselves. If, at the outset, most participants focused primarily on the sequential delivery of content, lessons increasingly came to be viewed as spaces for historical inquiry and the development of students' historical thinking.

The initial lesson plans generally followed a traditional teacher-centered model. Lessons typically began with teacher explanations, followed by work with textbooks or individual historical documents, and concluded with brief discussions or checks of factual knowledge acquisition. The primary emphasis was placed on reproducing historical information and covering curricular content. Historical sources functioned largely as illustrations supporting an already established narrative. Questions posed by teachers were predominantly designed to elicit factual recall and confirm knowledge acquisition.

However, observations and analysis of student responses revealed that this structure did not consistently support the development of historical thinking. Although many students were able to reproduce information, they frequently encountered difficulties when interpreting historical sources, explaining causal relationships, and constructing evidence-based arguments. Written responses often lacked explicit connections between claims and evidence, and historical documents were commonly treated as repositories of information rather than objects of analysis.

These observations became the basis for substantial revisions of research lessons. In revised lesson plans, participants moved away from a linear content-transmission model toward an approach grounded in the principles of historical inquiry. Central positions within lessons were increasingly occupied by problem-based questions requiring the analysis of evidence and the construction of interpretations. Participants began introducing inquiry questions at the beginning of lessons to guide subsequent investigation and structure students' learning activities.

The shift toward inquiry-oriented lesson design is particularly evident in the nature of the questions incorporated into revised lesson plans. Although many inquiry questions were derived from topics specified in the national curriculum, they were reformulated to require investigation rather than factual recall. For example, instead of simply studying the revolt of Spartacus, students were asked: "How does the revolt of Spartacus reveal the nature of slavery in Ancient Rome?" Similarly, lessons on the Huns included the inquiry question: "Why did Modu Chanyu argue that land constituted the foundation of the state?" Such formulations required students to analyze historical evidence and construct arguments rather than reproduce textbook information.

Substantial changes also occurred in the organization of work with historical sources. Whereas early lesson plans typically relied on a single document serving an illustrative function, later versions incorporated multiple sources of different origins. Students were asked to compare documents, identify differences in authors' perspectives, analyze the context in which sources were produced, and evaluate their reliability. As a result, historical sources gradually shifted from being supplementary materials to becoming central tools of historical investigation.

Particular importance was assigned to the incorporation of sourcing, contextualization, corroboration,

and multiperspectivity. Participants increasingly designed activities that required students to identify the authorship of sources, examine the purposes for which they were created, analyze their historical context, and compare multiple accounts of the same event. These elements were no longer treated as isolated exercises but became integrated into a broader process of historical inquiry. Consequently, students were provided with opportunities to engage with historical documents in ways that more closely resembled the practices of professional historians.

Changes were also observed in the nature of teachers' questions. During the early stages of the project, questions were predominantly reproductive in character, such as: "What happened?", "When did the event occur?", and "Who participated?" In revised lesson plans, these were increasingly replaced by analytical questions, including: "Which evidence from the source supports this interpretation?", "Why do different sources explain the event differently?", and "What evidence suggests that one source may be more reliable than another?" Questions of this kind required the use of evidence and encouraged the development of historical argumentation.

The nature of assessment tasks also changed considerably. Initially, final activities were largely limited to retelling historical content or providing brief answers to factual questions. Following participation in Lesson Study, however, participants increasingly employed argumentation-based tasks. Students were required to formulate a claim, identify supporting evidence, explain the significance of that evidence, and develop a reasoned conclusion. This structure promoted evidence-based reasoning and more deliberate engagement with historical sources.

Taken together, these findings indicate that Lesson Study contributed to a fundamental shift in participants' understanding of instructional design. Lesson planning ceased to be viewed primarily as the organization of content and classroom time. Instead, it became understood as the construction of conditions under which students could analyze evidence, formulate historical interpretations, and develop historical thinking. In this respect, the transformation of lesson design reflects a broader transition from content-centered instruction toward inquiry-based history education.

Student artefacts and written responses constituted a particularly valuable source of evidence because they made it possible to trace changes in students' historical thinking as manifested through their engagement with learning tasks. Analysis of student responses suggested that initial difficulties were associated less with a lack of factual knowledge than with underdeveloped procedures of historical reasoning.

During the first Lesson Study cycle, most student responses were predominantly descriptive. Students tended to identify isolated features of a source, summarize the content of a document, or list factual information without moving beyond simple reproduction. For example, when analyzing a historical image, students frequently provided comments such as: "The picture shows rulers and ordinary people" or "The image depicts an important historical event." Such responses demonstrated attention to the content of the source but contained little evidence of interpretation or analytical reasoning.

Across subsequent cycles, the structure of student responses became increasingly sophisticated. Following the introduction of tasks emphasizing sourcing and contextualization, students more frequently referred to the origins of sources, the circumstances of their creation, and the possible perspectives of their authors. Written responses began to include statements indicating attempts to analyze historical perspective and evaluate the credibility of information.

The most notable changes were documented during the third Lesson Study cycle. At this stage, students' written work increasingly displayed elements of evidence-based reasoning. Historical sources were no longer treated solely as objects of description but were used as evidence in the construction of arguments. Students wrote statements such as: "This source reflects the perspective of the authorities and therefore should be compared with other accounts." and "The author may have exaggerated the significance of the event because the account was written after the victory." Such responses demonstrate the emergence of sourcing, corroboration, and historical argumentation.

It is important to emphasize that these findings do not suggest the complete development of historical thinking within the relatively limited duration of the study. Rather, they indicate a meaningful shift in the orientation of students' learning activity. Whereas students initially viewed sources primarily as illustrations of already-known information, they increasingly came to use them as evidence for explaining historical

phenomena and evaluating competing interpretations of the past.

Analysis of student responses also revealed gradual development in historical argumentation. In earlier work, claims were often unsupported by evidence, or the connection between a claim and its supporting evidence remained implicit. In later responses, students more frequently identified specific details from sources, explained their significance, and used them to justify their interpretations. This progression reflects a movement from information reproduction toward more sophisticated forms of historical reasoning.

The findings therefore suggest that changes in lesson design were accompanied by corresponding changes in students' learning activity. The use of inquiry-based tasks, multiple sources, and argumentation-oriented assignments created conditions conducive to the expression and development of key components of historical thinking. These results support the proposition that instructional design, task structure, and opportunities for evidence use are closely connected to the quality of students' historical reasoning.

The findings indicate that participation in Lesson Study supported a transition from descriptive reflection toward analytical examination of student learning processes among future history teachers. Whereas participants initially focused primarily on their own actions and organizational aspects of teaching, their attention increasingly shifted toward students' historical thinking, the quality of argumentation, and the use of evidence. This tendency is consistent with Donald Schön's conception of the reflective practitioner, according to which professional development is grounded in the continuous analysis and reinterpretation of practice.

The results also support the ideas of Lawrence Stenhouse and John Elliott concerning the teacher as a researcher of practice. Lesson Study created conditions for systematic analysis of classroom evidence, collaborative discussion of findings, and revision of instructional decisions based on empirical data rather than intuition. In this sense, inquiry became integrated into the everyday professional activity of participants. Особое значение имеет влияние Lesson Study на развитие evidence-informed pedagogical reasoning. Анализ lesson plans и student responses показал переход от teacher-centered instruction к элементам inquiry-based history education. Участники стали чаще использовать исторические источники как инструмент исследования, включать задания на sourcing, contextualization и corroboration, а также ориентировать учащихся на построение аргументации на основе evidence. Это согласуется с современными представлениями о historical thinking как ключевой цели исторического образования.

A further important finding concerns the influence of Lesson Study on the development of evidence-informed pedagogical reasoning. Analysis of lesson plans and student responses demonstrated a gradual shift from teacher-centered instruction toward elements of inquiry-based history education. Participants increasingly employed historical sources as instruments of investigation, incorporated tasks focused on sourcing, contextualization, and corroboration, and encouraged students to construct arguments grounded in evidence. These developments are consistent with contemporary conceptions of historical thinking as a central goal of history education.

Another significant outcome was the emergence of collaborative professional inquiry. Joint lesson planning, observation, and discussion created opportunities for professional interaction grounded in the analysis of evidence and collective problem-solving. Over time, participants increasingly came to view teaching not as an individual activity but as a process of collaborative professional investigation. This finding aligns with contemporary studies emphasizing the role of professional learning communities in supporting sustainable professional growth and reflective practice.

Taken together, these findings suggest that Lesson Study, when embedded within teaching practicum experiences, has considerable potential as a mechanism for developing research-oriented teaching practice and fostering the research culture of future history teachers. The results indicate that Lesson Study can be understood not only as a means of improving lesson quality but also as a framework for integrating pedagogical practice, professional reflection, and inquiry-based professional learning.

The findings also contribute to the broader discussion concerning the relationship between teacher education and research. International scholarship has increasingly emphasized that effective teacher preparation requires future teachers not merely to consume research but to engage in systematic inquiry into their own practice. Within this perspective, research competence is viewed as a professional capability that enables teachers to formulate questions, gather evidence, interpret data, and make informed pedagogical

decisions. The present study demonstrates that Lesson Study can provide a practical structure through which these competencies are developed in authentic classroom settings.

The study further suggests that the development of research-oriented practice in history education possesses distinctive disciplinary characteristics. Unlike many other school subjects, history requires students to engage with evidence, evaluate competing interpretations, and construct reasoned historical explanations. Consequently, future history teachers must learn not only how to teach historical content but also how to investigate students' historical reasoning. Participation in Lesson Study encouraged future teachers to focus their attention on these disciplinary dimensions of learning and to use classroom evidence as a basis for refining instructional decisions.

An important implication of the findings concerns the relationship between historical thinking and teacher inquiry. The results indicate that when teachers systematically examine how students interpret sources, use evidence, and construct arguments, they become more capable of designing learning experiences that support disciplinary thinking. Thus, Lesson Study functioned simultaneously as a mechanism for professional learning and as a methodology for investigating the development of historical thinking. This dual role may be particularly valuable in history teacher education, where the boundaries between teaching, reflection, and inquiry are often less clearly articulated than in research-intensive professional preparation programs.

At the same time, several limitations should be acknowledged. First, the study was conducted with a relatively small group of participants within a single teacher education context. As a result, the findings are intended to support analytical rather than statistical generalization. Second, the study focused primarily on participants' perceptions, reflections, and documented practices during the practicum period. Although student artefacts provided evidence of changes in historical reasoning, the research was not designed to measure long-term effects on student learning outcomes. Third, the dual role of participants as both practitioners and researchers may have influenced the interpretation of events and observations despite the use of triangulation, reflexive documentation, and collaborative analysis procedures.

Despite these limitations, the study offers several contributions to the literature. It extends existing research on Lesson Study by examining its role in the preparation of future history teachers rather than in the professional development of in-service teachers. It also contributes to scholarship on research-based teacher education by demonstrating how inquiry can be integrated into pedagogical practicum through collaborative investigation of classroom learning. Finally, it enriches research on historical thinking by showing how the development of disciplinary reasoning can become an explicit focus of teacher inquiry and professional reflection.

## **Conclusions**

The study demonstrates that Lesson Study can function as an effective mechanism for developing research-oriented teaching practice and research culture among future history teachers. Participation in collaborative lesson inquiry contributed not only to methodological improvement but also to significant transformations in reflective thinking, pedagogical reasoning, and the understanding of teaching as a research-oriented professional activity.

One of the central findings concerns the transition from descriptive and teacher-centered reflection toward analytical and evidence-informed reflective practice. Participants increasingly focused on students' learning processes, historical reasoning, and evidence interpretation. Lesson Study therefore created a structured environment for developing reflective pedagogical thinking grounded in collaborative inquiry and classroom evidence.

The research also revealed substantial changes in instructional design and pedagogical decision-making. Participants integrated inquiry-based approaches, source-based learning, and evidence-oriented argumentation tasks into classroom instruction. Historical sources became tools for interpretation, multiperspectivity, and disciplinary inquiry rather than simple illustrations.

Another important outcome was the development of collaborative professional culture. Participation in collaborative planning, classroom observation, and reflective discussion enabled future and practicing teachers to perceive teaching as collaborative professional inquiry rather than isolated individual practice.

The study additionally demonstrates that Lesson Study contributed to changing participants'

understanding of teaching as research. Participants gradually moved away from viewing teaching as the implementation of predetermined instructional techniques and began perceiving classroom practice as an ongoing inquiry into students' thinking and learning.

Particular significance of the research lies in the integration of Lesson Study into graduation research projects of final-year students. Lesson Study was not treated as an additional component of pedagogical practice but as part of students' research activity connected with inquiry-based history teaching, historical thinking, and classroom evidence analysis. Integrating Lesson Study into graduation projects enabled the combination of academic research and pedagogical practice while fostering students' research autonomy and evidence-informed professional thinking.

At the same time, the study identified several limitations related to the short duration of pedagogical practice, the limited number of participants, difficulties in interpreting classroom evidence, insufficient experience with reflective practice, and the persistence of teacher-centered instructional tendencies.

The theoretical significance of the study lies in demonstrating the potential of Lesson Study to integrate reflective pedagogy, practitioner inquiry, and disciplinary approaches to history education within a unified research-oriented framework. The practical significance of the research is associated with the possibility of integrating Lesson Study into teacher education programs as a mechanism for developing reflective, collaborative, and inquiry-oriented professional culture.

Overall, the findings suggest that Lesson Study should be understood not simply as a pedagogical technique or a model of peer lesson observation but as a form of collaborative professional inquiry that supports the development of research culture, reflective pedagogical thinking, and evidence-informed teaching practice among future history teachers.

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The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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