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Collective Reflection and Public Inquiry: Organization and Direction in School-Based Lesson Study

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Abstract

Collaborative reflection is central to teacher professional learning, yet discussing a shared lesson does not necessarily make the grounds for teaching decisions available for collective examination. Judgments about students' learning shape the tasks and support teachers provide, making it important for teachers to examine the evidence and interpretations underlying those judgments together. This study examines how post-lesson meetings open or limit opportunities for such public inquiry: the collective examination of evidence and interpretations of students' learning as a basis for reconsidering teaching. Drawing on audio recordings of post-lesson meetings, field notes from the corresponding open lessons, and follow-up interviews at four Indonesian public junior high schools, the analysis traces the direction of collective reflection: which concerns participants pursue, redirect, revisit, or set aside. Some observations became shared questions about teaching, while others were acknowledged without further examination. Follow-up accounts showed that contributions could also inform teachers' reasoning beyond the scrutiny they received during the meeting. The findings locate the significance of collective reflection in how participants make judgments about students and teaching available for one another to question and reconsider.

Keywords: reflective practice; public inquiry; Lesson Study; collaborative reflection; teacher professional learning; Indonesia

1. Introduction

School-based professional learning increasingly relies on collaborative routines through which teachers examine classroom practice together. Yet noticing students' learning is not the same as learning collectively from what is noticed. Teachers may identify hesitation, confusion, participation, or success without turning those observations into a shared question about teaching. The central problem is therefore how teachers use classroom evidence to collectively interpret students' learning and reconsider teaching. Post-lesson reflection provides a particularly useful site for examining this process. Following Dewey and Schön, reflection is understood here as disciplined interpretation of experience that questions assumptions and informs future action (Dewey, 1933; Rodgers, 2002; Schön, 1983).

Teachers may exchange observations and acknowledge effort without examining why a student encountered difficulty or why a proposed response might help. Judgments about what students understand and why they do or do not participate inform the tasks and support teachers provide (Inoue et al., 2019). Research on teachers' workplace learning shows how professional interactions make classroom practice available for examination

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and organize the investigation of problems of practice (Little, 2003; Horn & Little, 2010). The question is how participants use that opportunity: which concerns they pursue, whose interpretations they take up, and what they leave unquestioned.

Sharing an observation makes it available to colleagues; examining how it supports a judgment allows them to question that judgment and consider alternative explanations. Through such collective examination, teachers can share responsibility for how students' learning is understood and supported. This study examines that process as public inquiry, distinguishing the availability of classroom evidence from its use in professional judgment. It also directs attention to the organization of that work: who can raise a question, who is invited to explain, and whether an unresolved concern remains open for discussion. Direction traces the course of collective attention, while public inquiry concerns the examination of evidence and interpretations within it.

Lesson Study provides a setting for this work through the planning, observation, and discussion of a shared lesson (Lewis et al., 2006). Warwick et al. (2016) examine dialogue connecting observations of students' learning to pedagogical intentions and consider teachers' subsequent reports of changes in practice. Segal (2024) questions the assumption that collective reflection leads directly to individual reflective practice. These studies also make it important to consider what teachers subsequently make of contributions to a discussion, alongside what participants examine collectively.

The study examines four public junior high schools in West Java, Indonesia, each with a history of Lesson Study involving observed lessons and post-lesson meetings. Lesson Study in Indonesia has developed through school–university partnerships (Saito et al., 2006, 2007), within an education system shaped by bureaucratic structures and reform pressures (Bjork, 2005). This study uses these formally similar routines as comparative sites for examining how collective reflection is organized. It draws on audio-recorded post-lesson meetings, observations of the corresponding lessons, and follow-up interviews with the lesson teachers.

The study addresses two research questions:

RQ1. How do post-lesson meetings in four schools differ in what collective reflection is directed toward?

RQ2. How do meeting organization and participants' interactions open or limit opportunities for public inquiry into students' learning and teaching?

The comparison follows what happens after a teacher reports a classroom observation: whether participants ask what it shows, explain a teaching choice, offer another interpretation, or move on. These responses reveal whether and how a concern becomes a shared question, and what remains unresolved. Follow-up interviews examine how the lesson teacher interpreted particular contributions to the discussion. This approach distinguishes what teachers examined collectively during the meeting from which contributions the lesson teacher later reported using to reconsider students' learning or a teaching task.

2. Opening Pedagogical Judgments to Collective Inquiry

2.1. Tracing the Direction of Collective Reflection

Reflective practice describes how teachers learn from experience, question assumptions, and improve practice. Drawing on Dewey and Schön, reflection is treated not as retrospective comment but as interpretation connected to future action (Boud et al., 1985; Dewey, 1933; Rodgers, 2002; Schön, 1983).

Because reflection is used to describe a wide range of activities, from individual thought and self-examination to dialogue and inquiry, its professional meaning is not always clear. Existing studies have addressed this problem by distinguishing technical, practical, dialogic, and critical forms of reflection and by examining differences in professional judgment,

awareness, and agency (Hatton & Smith, 1995; Jay & Johnson, 2002; Larrivee, 2000; van Manen, 1977; Zeichner & Liston, 1987). Yet the move from individual reflection to collective reflective events raises an additional analytic problem: the professional significance of the meeting cannot be inferred from the reflective quality of isolated contributions. Recent work has explicitly questioned assumptions surrounding this shift and shown that collective reflection follows trajectories shaped by context, interaction, and identity (Segal, 2024). The present study builds on this problem by asking not only what kind of reflection occurs, but how participants' responses shape the concerns pursued in collective discussion.

Research on teacher noticing examines how teachers attend to and interpret students' thinking (van Es & Sherin, 2008), while research on workplace conversation shows how conversational routines organize opportunities to investigate problems of practice (Horn & Little, 2010). These studies support attention to how an observation is interpreted and taken up in subsequent contributions.

Rather than asking only how deep or critical reflection is, this study examines how reflection is collectively organized. In collective settings, teachers may exchange observations, affirmation, and advice without developing a shared line of inquiry. Direction refers to the course of concerns across contributions: which concerns participants pursue, redirect, revisit, or set aside. It is traced through responses to earlier contributions rather than assigned from a meeting's opening purpose or the reflective quality of an individual comment. This allows comparison of how similar meeting routines develop into different lines of discussion.

Tracing direction locates a question within the discussion that precedes and follows it. A concern may be raised, acknowledged, and left behind, or taken up again by another participant. These sequences provide the context for examining whether participants scrutinize the evidence and reasoning behind a judgment—the focus of public inquiry.

2.2. What Makes Inquiry Public

Collective reflection is not automatically public inquiry. Public inquiry refers to the collective examination of evidence and interpretations of students' learning as a basis for reconsidering teaching. In public inquiry, classroom evidence becomes a shared object rather than an individual impression, is opened to collective interpretation rather than treated as a simple indicator of success, and can inform a publicly discussable problem of practice and possible lesson redesign. What makes the inquiry public is not merely that teachers speak together, but that evidence, interpretations, and proposed responses become open to challenge within the meeting.

This understanding is informed by practitioner inquiry, teacher workplace learning, and research on collective reflection. Practitioner-inquiry scholarship frames inquiry as a stance through which teachers generate knowledge from practice, while research on teachers' workplace conversations shows that professional learning is supported when problems of practice are examined through shared routines and resources (Cochran-Smith & Lytle, 2009; Horn & Little, 2010). Studies of collective reflection likewise show that the specific interactions through which teachers discuss public lessons can create or foreclose opportunities for professional learning (Han, 2006), and that collective reflection cannot be treated as a simple extension of individual reflective practice (Segal, 2024). The unresolved issue is therefore not simply whether teachers reflect collectively, but how a collective event organizes evidence and interpretation into—or away from—a shared pedagogical problem.

Public inquiry also has organizational and ethical dimensions. Meeting norms, role expectations, and leadership shape what can be said and whose interpretations receive attention (Horn & Little, 2010; Little, 2003). When a judgment about a learner becomes open to colleagues' questions, its grounds can be examined beyond the lesson teacher's

own account. The issue is not whether participants reach the same view, but whether they can examine what supports a view and what it implies for teaching. This gives the study of public inquiry a specific purpose: to investigate how responsibility for interpreting students' learning becomes shared through the examination of professional judgment.

2.3. Lesson Study as a Site for Examining Reflective Practice

In a typical Lesson Study cycle, teachers collaboratively identify a pedagogical problem, plan a research lesson, observe students' responses, and discuss the lesson in a post-lesson meeting to interpret learning and consider possible revisions (Lewis et al., 2006).

Lesson Study connects collective reflection to the examination of a shared lesson. Teachers examine a common research lesson in relation to its instructional aims, while students' responses provide evidence through which the relationship between teaching and learning can be reconsidered (Lewis et al., 2006). In this sense, Lesson Study can be understood as a pedagogically structured form of professional learning mediated by a shared lesson, instructional aims, and evidence of students' learning.

This pedagogical structure gives Lesson Study the potential to orient collective reflection toward inquiry, but the presence of an instructional aim, research lesson, and post-lesson meeting does not in itself determine how teachers will interpret classroom events. Their significance depends on how these elements are taken up and connected within the discussion. Warwick et al. (2016) examine dialogue connecting observations of students' learning to pedagogical intentions and also consider teachers' subsequent reports of changes in practice. Their study supports examining discussion alongside later accounts while distinguishing reported changes from observed implementation.

The analysis therefore traces how teachers referred to and used instructional aims while interpreting students' learning. It also attends to contributions by external advisers, often described in Lesson Study as knowledgeable others. In the present cases, visiting researchers sometimes introduced an explanation or asked participants to reconsider a classroom event. Their contributions are analyzed alongside those of school participants to identify how a line of inquiry developed and whose questions sustained it.

2.4. Analytic Framework

The analysis distinguishes the direction of concerns across a meeting from the collective examination of particular judgments within it. At School A, for example, the moderator framed the lesson as shared work, yet an observer's question about whether group work demonstrated individual understanding was acknowledged without further examination. Accordingly, public inquiry was identified through responses that questioned or developed the evidence and reasoning behind a judgment. Section 3.3 sets out the procedure.

Follow-up interviews were used to examine what lesson teachers subsequently made of particular observations and suggestions. Read alongside the meeting records, these accounts extend understanding of the discussion's professional significance without making reported reconsideration a criterion for identifying public inquiry.

3. Methodology

3.1. Comparative Case Study Design

The study used a comparative qualitative case-study design involving four public junior high schools in West Java, Indonesia. The wider study involved five schools; the present analysis includes all four cases with verbatim meeting transcripts, each comprising an audio-recorded post-lesson meeting, observations of the corresponding lesson, and a follow-up interview with the lesson teacher. The fifth school was excluded because, although Researcher 2 observed its post-lesson meeting, no verbatim transcript was available

for tracing participants' contributions and responses. Each case centers on one meeting observed during the research visit. The schools differed in size and continuity of Lesson Study participation (Table 1). These differences provided context for comparing how collective reflection was organized. The principal at School D described the activity as Lesson Study for Learning Community (LSLC); Researcher 1 also referred to LSLC during the School A meeting.

Table 1. Observed lessons and school context.

School	Observed Date	Observed Open Lesson	Classroom Observers	Background Context	Lesson Study Continuity
School A	23 February 2024	Grade 8 English: comparative degrees	35 (15 school teachers; 20 visitors)	Urban; approximately 1050 students/ 50 teachers (reported)	Reported active; origin around 2006
School B	21 February 2024	Grade 7 Mathematics: market-day data and diagrams	24	Approximately 360 students/ 30 teachers (reported)	Reported interruption following a change in school leadership
School C	22 February 2024	Grade 9 Science: conventional biotechnology (soybeans and tempeh)	18	Approximately 365 students/ 28 teachers (reported)	Reported rebuilding of Lesson Study after COVID-19 disruption
School D	20 February 2024	Grade 9 Science: biotechnology (cassava fermentation)	14	Approximately 370 students/ 20 teachers (reported)	Reported active; began around 2020

3.2. Data Sources

The primary data were audio recordings of one post-lesson meeting in each school in February 2024. Each meeting followed an open class (OC), a lesson opened to observation by colleagues and invited participants. The observed lesson provided a common basis for discussing students' learning and teaching. Researcher 1 prepared field notes. A research assistant transcribed each meeting in full in Indonesian and then translated it into English. Researcher 2 checked the English translations against the Indonesian transcripts.

Lesson observations and interviews supported interpretation of the concerns raised in the meetings (Table 2). Background interviews with principals and teachers situated the meetings within local understandings of Lesson Study. Follow-up interviews with the four lesson teachers in March 2024 explored teaching purposes, useful feedback, continuing difficulties, and responses to the observed lesson. These accounts provided evidence of teachers' subsequent interpretations; reported changes in practice were not independently observed.

Researcher 1 and Researcher 2 are the authors; their relationships with the schools also shaped their participation. Researcher 2 had been involved in the schools' Lesson Study activities over time and occasionally advised on lesson preparation and pedagogy. Researcher 1 attended the observed lessons and meetings without preparing the lessons, but contributed to some discussions. The analysis distinguishes exchanges initiated within the schools from those developed with this external support.

To protect anonymity, the schools are referred to as Schools A–D, the principals as P-A–P-D, and the lesson teachers as LT-A–LT-D. Identifying details were removed or generalized.

Table 2. Data sources and analytic use.

Period	Data Source	Participants	Analytic Use
August 2023	Semi-structured interviews on school practice, sustainability, and local meanings of reflection	Principals and teachers in each school	Contextualized how reflection and Lesson Study were understood locally.
February 2024	Open-lesson observations and post-lesson meeting records	Lesson teachers, observing teachers, principals, moderators, and visiting researchers	Meeting records provided the primary evidence for how pedagogical concerns were raised and examined; lesson observations supported interpretation.
March 2024	Lesson-focused follow-up interviews	Lesson teachers LT-A to LT-D	Compared teachers' later accounts with meeting concerns, distinguishing explicit connections from thematic similarities and identifying where the timing of reported changes was unclear.

3.3. Analytic Procedure

Researcher 1 conducted the primary analysis using the English translations and discussed interpretations with Researcher 2. Each meeting was first read in full to trace its opening, the concerns participants raised, and how those concerns were pursued, redirected, revisited, or set aside. This reading located individual contributions within the course of discussion and informed the comparison of direction across the four meetings. Table S1 summarizes the development of selected focal concerns across the four meetings.

Focal exchanges were selected where classroom observations informed judgments about students' learning or teaching choices, including concerns receiving little further attention. Each was examined for the judgment, its evidence or reasoning, and subsequent responses. Public inquiry was identified when participants questioned or developed one another's reasoning, explained a questioned choice, or compared interpretations. Reporting, acknowledgment, or recommendations alone did not establish collective examination. At School C, for example, the principal questioned the passage's wording, the moderator invited clarification, and the teacher explained its preparation. These responses examined the task's basis without establishing how students interpreted the sentence.

Researcher 1's contemporaneous lesson observation notes and records of teachers' pre-lesson briefings on instructional aims informed the interpretation of these exchanges. Follow-up interviews were read for references to the same learner, task, observation, or suggestion. Connections explicitly made by the teacher were distinguished from similarities identified across the two sources. The comparison examined what participants had scrutinized collectively and how the teacher subsequently interpreted a contribution, including accounts that clarified an existing purpose or added an explanation without replacing an earlier judgment.

4. Findings

Each case begins with the lesson's purpose and sequence, based on observation notes and teachers' pre-lesson briefings. The analysis then traces the meeting's organization and the concerns participants pursued, before examining how the lesson teacher later interpreted particular contributions.

4.1. School A: Examining Participation in a Shared Lesson

The Grade 8 English lesson focused on comparative expressions. The teacher began with rulers of different lengths and dictionaries of different sizes, asking students to compare them in Indonesian. Groups then used worksheets and statement strips about earnings, mountain heights, or cooking times to construct comparative sentences. They wrote their answers on large sheets and displayed them for presentation. After three groups had presented, the teacher introduced the grammatical patterns and used them to review the answers. This sequence provided the context for questions about participation, individual understanding, and when to explain the pattern.

At School A, the moderator framed the post-lesson meeting around students' learning and a jointly planned English lesson. At the meeting's opening, the moderator asked participants to discuss "students' problems in learning," base their comments on observation, and call the research lesson *pembelajaran kita* ("our lesson"). Suggestions about the lesson plan would be taken to the English team. This opening made students' participation and the design of the shared lesson legitimate concerns for discussion.

Unequal access to the task became a recurrent concern. Some students used dictionaries and helped peers; others had not completed the translation homework, did not start writing, or remained quiet while one group member controlled the worksheet. After reports from the first two groups, the moderator connected these accounts to students' preparation and the vocabulary needed for the lesson. After the third, he returned to the intended learning: students were meant to discover a sentence pattern themselves. In light of the uneven participation, he said, "We have to think about how to design the lesson." The moderator thus connected observations across groups to a shared question about task design.

A later observer located part of the difficulty in the materials. She described students who began using books and dictionaries after the teacher reminded them about homework, while others had apparently not completed that preparation. She suggested putting pictures on the worksheet to help students understand the sentences, then questioned an example: "*Betawi soto* is shorter than *Rendang* in cooking. … What was the shorter one?" The moderator replied that the planning group had chosen familiar objects such as rulers and dictionaries to make comparison contextual without extensive preparation. He accepted the picture suggestion: "we are going to add pictures to make it contextual."

The observer raised both students' access to the sentences and the intelligibility of the comparison. By asking what was being compared as "shorter," the observer identified what the sentence failed to specify. The moderator explained the planning rationale and accepted pictures, but moved to the next observer without addressing the ambiguity or whether pictures would resolve it.

A visiting teacher explicitly distinguished students' cooperation from their understanding of the grammatical pattern. After congratulating LT-A, she reported that students in the group she observed had completed the translation homework but struggled to find the comparative pattern. Some wrote "more long"; others had not written a sentence. Although students discussed how to write their answers on a large sheet, she said, the discussion concerned the writing rather than the grammatical pattern. The completed worksheet largely represented one student's work: "Who was assessed through this worksheet?" She concluded that "the students were learning to cooperate well but this group did not yet understand the concept." Her suggestion to provide the pattern before asking students to compose sentences also questioned the earlier emphasis on discovering the pattern independently.

The moderator interrupted because it was already 2 p.m. and other observations remained to be heard. He thanked the speaker, said that her suggestions had been noted, and invited the Education Board representative to speak. The next contribution praised the

lesson and reported on another group, without taking up the question about individual understanding. The visiting teacher had made both the meaning of successful group work and the timing of explanation open to question. Acknowledgment kept her contribution on record, but did not extend the examination of those judgments.

Researcher 1 later returned to task demands and the timing of explanation, eliciting LT-A's reasons for delaying the introduction of the grammatical pattern. These questions developed concerns already raised by observing teachers. Across the meeting, appreciation coexisted with criticism, but the examination of particular judgments varied.

LT-A's 26 March interview places the concern with participation within her continuing aim for students to communicate in English. Asked about feedback on less active students, she described giving them more activities and asking more questions: "I tried to find the problems, I tried to find how to solve the problems by myself." Asked whether this worked, she replied, "Just a little bit." However, because she distinguished earlier Lesson Study feedback from the latest open lesson in her preceding answer, these attempts cannot clearly be attributed to the observed meeting. Her account showed a continuing concern with participation, but did not clarify how she interpreted the distinction between cooperation and conceptual understanding raised in the meeting.

4.2. School B: What to Do with Students' Unexpected Questions

The Grade 7 mathematics lesson connected data collection and representation to deciding which drinks to sell at a school market day. After discussing photographs of interviews and people drinking, students formulated questions in groups and wrote a question on the board. The teacher used a familiar shop as an example of gathering information about customers' needs, then returned to the drink questions. Students distributed prepared preference questionnaires to other groups, collected and tallied responses, and represented the results in tables and diagrams. Groups' work was projected for the class, followed by a presentation and questions about the most and least popular drinks. The relation between students' own questions and this prepared data task became a central concern in the meeting.

School B brought the value of students' own questions into discussion. At the meeting's opening, LT-B invited colleagues to report what they had seen to inform a future lesson. She attributed some confusion to forgetting to distribute a prepared worksheet at the intended time. Observers extended the discussion to the photographs used as prompts, students' questions, group participation, and incomplete or inaccurate data. Together, these accounts suggested several possible sources of difficulty.

One exchange concerned students who asked how people felt about drinks rather than about drink types. An observer described these questions as "not what we expected." The moderator reformulated the issue as "how to direct the student so that the students could make such questions"; another observer suggested writing the intended question on the board. This proposal treated departure from the expected question as a problem requiring redirection.

Later, the moderator returned to the displayed student writing: "Can students read these sentences? Do you mind commenting on this?" The teacher responded by explaining the value of the questions themselves: "Actually, all of the students' answers can be used to collect data. The question about 'how do you feel when you drink it?' can also be used to collect the data." She had considered using such questions, but explained that working out how to answer them might complicate the activity and pull it away from the plan. Her account brought their potential into the discussion alongside the practical difficulty of using them.

The alternatives remained only partly explored. Participants did not compare the data that different questions would yield or how those data could support tables and diagrams, and the next speaker turned to activity and copying. Researcher 1 later returned to the market scenario and asked how students might decide what information they needed.

LT-B's 28 March interview connected this issue to a continuing planning difficulty: how to allow students to make decisions while guiding the data task. She recalled initially intending to let students choose how to collect data, then introducing a questionnaire following advice during preparation, including advice from Researcher 2. She also recalled a colleague's suggestion that students interview canteen sellers and said she might try it the following year.

In another exchange in the post-lesson meeting, attention shifted from how students' questions fitted the planned activity to what one question revealed about an individual learner's capability. An observer reported that a usually quiet student had formulated a question about drink types that was closer to the intended question than her peers' responses. LT-B thanked the observer and described the student as a "slow learner" who often gave incorrect answers and rarely spoke to friends. The reported contribution surprised her. The principal then moved to the use of worksheets and the atmosphere of the lesson. The observer's account brought a specific capability into view alongside the teacher's general assessment, but LT-B did not explicitly revise that assessment during the exchange.

The 28 March interview shows what LT-B later made of the observation about the quiet student. She explained that she had missed the contribution during the lesson and described a further check: "when I gave her another illustration, she could actually work on it. I was checking on her skill after OC." She reported a strength in formulating questions alongside difficulty with numerical work, concluding that "we cannot think or judge that a certain student is weak in math." The observer's report was thus explicitly connected in her account to checking the learner's capability and reaching a more differentiated judgment.

The reconsideration concerned what counted as evidence of mathematical ability. The interview account qualified the general label through a distinction between numerical work and formulating questions. The check was not observed, and the timing of her changed interpretation remains uncertain. Her later account linked an observation that received little collective examination to a more differentiated judgment of the learner's ability.

4.3. School C: Examining the Source of Students' Difficulty

The Grade 9 science lesson concerned conventional biotechnology in food production and planning a food-making project. It opened with questions about how boiled cassava could be preserved. Students then read about soybeans and tempeh on a student worksheet (LKPD), answered questions individually, and shared answers within groups. The teacher circulated and questioned students about their responses. Groups next used tablets to find materials and procedures for a biotechnology product of their choice. The teacher confirmed their choices, explained the remaining project questions, and assigned the practical work for home. The meeting focused particularly on the earlier reading and comparison task, rather than on the completion of the home project.

At School C, participants questioned whether students' difficulty arose from the teacher's explanation, the written material, or the demands of the task. Their difficulty with the passage comparing soybeans and tempeh became a focus for examining both the material and its preparation.

An observer reported that students were unsure how to answer the question comparing soybeans and tempeh and suggested explaining more clearly that tempeh is made from soybeans. The principal then read a sentence from the text: "Soya beans and Tempeh come

from the same ingredient/material." He objected that soybeans were the raw material rather than a product and said, "I was also confused with the sentence, and I read this sentence twice to thrice." The moderator took up the concern about wording: "Thank you for the inputs about the sentences and the meaning behind them. We can directly clarify it to [the lesson teacher]." The teacher replied: "I didn't really think through the text sentence by sentence. I made this text really quick, and when I discussed it with my friend, we were more focused on the questions about how to make the sentences in the questions."

The principal widened the problem from insufficient oral explanation to ambiguity in the text, which treated a raw material and its product as though both came from the same ingredient. The moderator invited a response, and the teacher connected the wording to colleagues' focus during preparation. The exchange made the wording and its preparation subjects of collective examination. It did not establish how students had read the sentence or whether the ambiguity accounted for their difficulty.

Although the difficulty had been located partly in the text, the teacher's proposed response centered on oral explanation. He suggested "to explain it in more detail before students working on the LKPD" and helping students understand the questions. Participants did not establish whether more oral explanation would resolve the ambiguity in the written task. More explanation might help students approach the task, but the principal's rereading also raised the question of whether the passage, the question, or both required revision.

Another exchange concerned the demands of the task. An observer contrasted students' difficulty with the passage with their enthusiasm and quicker progress when searching digitally, where they knew what to look for. He interpreted this as greater interest in digital resources. The teacher responded by explaining why he had used the reading task: the goal was to lead students to "think broadly" through classification, interpretation, prediction, and formulating questions. "To answer such questions, students need to think hard," he explained. His response introduced the intended thinking as another basis for interpreting difficulty.

The discussion continued to move among explanations of students' difficulty. The moderator thanked the observer, suggested that low literacy or unfamiliarity with such questions might be involved, and invited further observations. Later contributions returned to literacy and the wording of individual sentences. Students' pace could therefore be read in relation to unclear wording, unfamiliar reading tasks, or the demands of the intended thinking. These explanations were made available without establishing together which difficulties arose from the material and which from its intellectual demands. The teacher's rationale became explicit, while the interpretation of students' difficulty remained open.

LT-C's 28 March interview returned to the wording issue when he discussed colleagues' contributions and, later, what he had learned from reflection. He recalled a suggestion to specify "boiled soybeans and tempeh." This precise comparison appeared in his recollection, rather than as an agreed revision in the recorded exchange above. He explained the usefulness of detailed suggestions in relation to his existing plan: "I already have clear ideas about what I should do." Students were intended to observe, compare, and work through steps in learning. Colleagues' suggestions helped him consider how the wording could make those steps accessible.

LT-C acknowledged a problem in the material while maintaining the purpose of a demanding task. His later account positioned colleagues' advice on wording as a way to help students undertake the intended comparison.

4.4. School D: From a Success Estimate to the Meaning of Collaboration

The Grade 9 science lesson introduced biotechnology through boiled and fermented cassava. Students were invited to taste them and compare their properties; the teacher connected the comparison to fermentation. Students then read a worksheet and answered questions, followed by whole-class sharing and discussion of examples of biotechnology products. In a second task, groups chose a product to make and consulted books or the internet for information about its preparation. They presented their plans and were assigned to make the product at home and record its development on video. These two tasks—answering worksheet questions and planning a shared product—provided contrasting occasions for the collaboration discussed in the meeting.

At School D, an opening estimate of success was followed by questions about what counted as collaboration. The moderator asked the teacher to estimate the success of the lesson as a percentage; she answered "around 78%." This was the teacher's self-assessment, not an independently assessed measure of students' achievement. In the same opening, she noted that only a few students were active and that students took a long time to answer her questions. Observers then described students who declined to taste the material, struggled with the first question, worked alone, or copied a peer's answer.

One observer reported that a student searched a textbook while others took the answers, without asking "how is this?" or "why is it like this?" The moderator asked whether giving each student a worksheet had helped and invited another way for everyone to collaborate. The observer raised access to materials as a possible explanation. Another teacher distinguished giving a peer an answer from asking together how to answer: "Unfortunately, the answers ... were only a copy from their friend's answers. ... What should've happened was that they should ask, 'How should it be? How should the answer be?'" The moderator took up that distinction: a leader who simply said "here it is" produced "copied and pasted" answers, whereas students should "find the answers together." The moderator proposed strengthening the group leader's role, asked whether there were other findings, and, after teachers said no, moved to the next observer group.

Participants collectively examined what counted as collaboration by elaborating the contrast between copying answers and working together to produce them. The reasons for limited collaboration received less examination: the moderator proposed stronger leadership without weighing it against access to materials. The fit between the proposed response and the reported difficulty remained unexplored.

The two researchers later brought task demands into the discussion. Researcher 2 replayed the classroom video. Appreciation of a presentation was followed by questions about the other students, to which a teacher replied, "They were focusing on their own work." Attention turned from the presenter to peers' listening. Researcher 1 proposed three possible explanations for limited collaboration: peer relationships, relationships with the teacher, and lesson design. Students could talk to peers and their teacher, she noted, but might rely on the teacher for answers.

Researcher 1 then asked when students had collaborated most. Teachers initially offered a general assessment: "the culture of our students is little bit lower in motivation," so "we must push them to increase their motivation." After a further question, they referred to making food but again said that collaboration was lacking. She repeated the question about which part of the lesson involved the most collaboration. Teachers identified "the second LKPD, when they were about to make a product." Asked why, they replied, "The mission is to make one product." Researcher 1 contrasted deciding on a product, which required discussion, with finding answers in a textbook.

The repeated questions elicited an activity in which collaboration was more evident and a reason for it: the shared product. Researcher 1 used this example to question a general account of low motivation through a task-related explanation. She had introduced lesson design before eliciting the example; teachers did not explicitly withdraw their motivation judgment or endorse her full explanation.

The contrast between tasks remained visible in LT-D's 26 March interview. Asked what she had learned from the open lesson, she proposed questions with more than one possible response: "If the questions are open-ended type, there are several things that they could discuss among them within the groups." When asked about active participation, she contrasted discussion during product decisions with the lack of discussion while students found answers on the earlier worksheet. She later attributed the idea of questions that make students think to Researcher 1. Her account thus connected the comparison developed in the meeting to a reason for changing the task.

Asked why some students had been less active, LT-D referred to their everyday behavior, suggesting "may be because that's their characters," and also mentioned nervousness around outside observers. Her proposed responses included redistributing active students, appointing a leader to involve each member, and making the lesson more challenging. In her account, task design became an additional way of interpreting participation, while explanations in terms of students' dispositions remained.

4.5. Directions of Collective Reflection Across the Four Meetings

The meetings differed in which observations participants examined further, how they explained what they had seen, and which questions they left unresolved.

At School A, the moderator connected group reports to a shared question about lesson design, but the distinction between cooperation and individual understanding was not pursued when raised. At School B, the teacher explained the value of unexpected questions alongside the constraints of the plan, while the observation challenging her assessment of a quiet learner received little examination. At School C, an invitation to respond made the wording and preparation of the text available for scrutiny; how students had interpreted that wording remained unresolved. At School D, repeated questions from Researcher 1 elicited a comparison between activities, extending the discussion of collaboration to task demands.

The follow-up accounts showed that the extent of collective examination did not fully capture a contribution's significance for the teacher. LT-B linked a briefly acknowledged observation to a more differentiated judgment of a learner's capability; LT-C interpreted advice as supporting an established purpose; and LT-D added task design to her explanations of participation. LT-A's account left her interpretation of the distinction between cooperation and understanding unclear.

5. Discussion

5.1. Organizing Reflection Toward Inquiry

Across the four meetings, the organization of discussion was visible in how participants took up classroom evidence: opening prompts established concerns, invitations to respond elicited reasons, and links between reports made observations available for comparison. The comparison suggests that these arrangements matter through participants' subsequent responses. An opening focus on students' learning could be followed by acknowledgment without further examination, while a meeting beginning with a success estimate could later develop a question about task design.

Schools A and D illustrate these contrasting developments. The moderator's language of "our lesson" and his connections across group reports positioned uneven participation as a shared concern about design. Yet the observer's distinction between cooperation and individual understanding was not pursued when raised. At School D, discussion moved beyond the initial success estimate to distinguish copying from collaboration. Researcher 1's repeated questions then elicited a comparison between tasks. The opening frame did not establish the course of the entire meeting. Following subsequent responses reveals which concerns were pursued and which were left behind.

Instructional purposes also became resources for interpretation when participants used them to explain or question teaching. At School B, the teacher explained why unexpected questions could yield data but complicate the planned activity. At School C, the intended thinking became a reason for retaining a demanding reading task. These explanations made purposes available for discussion, while leaving parts of their relationship to students' responses unresolved. The distinction is therefore between stating a purpose and using it to examine the evidence and reasoning behind a teaching choice.

Horn and Little (2010) show how conversational routines organize resources for investigating problems of practice. Here, following contributions beyond the opening frame reveals how that opportunity developed during each meeting. Direction captures these developments without treating the school's routine, the meeting's declared purpose, or an individual contribution as sufficient evidence of collective inquiry.

5.2. The Fragility of Public Inquiry

The comparison shows that public inquiry is fragile because evidence does not organize itself into a shared problem of practice. A meeting may contain a perceptive observation without participants pursuing its implications. It may also contain praise alongside substantial criticism. At School A, congratulations preceded the visiting teacher's question about what a completed group worksheet revealed about individual understanding. What mattered was whether subsequent responses examined that question.

Collective examination could develop around one part of a judgment while leaving another unresolved. At School C, participants scrutinized the wording and preparation of the text without establishing how particular students had interpreted it. At School D, they elaborated the distinction between copying and collaboration more fully than they examined whether stronger group leadership would address the difficulty. At School B, the teacher explained her planning choice, but participants did not compare the data different student questions might yield. Public inquiry therefore concerns which connections between observations, interpretations, and proposed responses become open to examination.

Horn and Little (2010) examine how conversational routines support inquiry into practice, while Warwick et al. (2016) trace dialogue toward agreed pedagogical intentions. At School A, pictures were accepted without examining whether they addressed the ambiguous comparison.

Previous research has identified an input–output view of teaching in which students' performance was evaluated as the result of instruction, while how students learned received little examination (Kusanagi, 2022). The present comparison shows that proposing a teaching change did not necessarily involve examining how students had understood the task or why the change would help. At School D, comparing activities made it possible to consider limited collaboration in relation to the task, alongside explanations based on students' motivation. Public inquiry matters because it opens these questions to collective examination, allowing difficulties attributed to students to be reconsidered in relation to the tasks and support provided.

At School B, an observer noticed that a usually quiet student had formulated a relevant question. The teacher expressed surprise, but the discussion moved on without examining what this contribution showed about the student's ability. In the follow-up interview, she reported checking the student's capability and reconsidering her general assessment of weakness in mathematics. Her account connected a briefly acknowledged observation with a more differentiated view of the learner. The extent of collective examination therefore did not capture the full significance she later attributed to that observation.

Warwick et al. (2016) connect discussion of students' learning with pedagogical intentions and subsequent accounts of practice. Segal (2024) questions a direct progression from collective to individual reflection. The present comparison examines this relationship around particular observations, distinguishing what participants examined together from what teachers later reported reconsidering.

5.3. How Professional Relations Shape Public Inquiry

The study also points to the institutional and ethical dimensions of reflective practice. In schools, reflection shapes professional relations as well as professional judgment. Meeting structures influence who is able to speak, what can be questioned, and whose interpretations shape the discussion. At School A, the moderator's effort to hear the remaining observers interrupted examination of a question already raised. At School C, the invitation to answer the principal's criticism made the preparation of the material available for scrutiny. Participation and sustained examination required practical decisions as discussion unfolded.

The researchers' contributions formed part of these arrangements. At School D, Researcher 1 introduced task design as an explanation and repeatedly asked teachers to compare collaboration across activities. The example supplied by teachers enabled further examination, but the line of questioning was externally supported. Distinguishing these contributions shows how school participants and researchers jointly shaped the inquiry, rather than attributing its development solely to the school's established routines.

Little (1982) locates collegiality in concrete workplace practices, including talk about instruction, observation, and shared preparation. Opening lessons and convening colleagues created opportunities for observations unavailable to the lesson teacher to enter discussion. Public inquiry gives these arrangements an ethical purpose by making students' learning a shared professional concern. Its development depends on whether participants can make evidence discussable, question interpretations, and consider uncertainty without locating responsibility solely in the lesson teacher.

5.4. Implications for Practice

For facilitators and school leaders, the findings suggest attending to what happens after an observation is shared. Connecting reports across groups can identify a common concern; asking what a student's work shows can expose an assumption; and inviting the teacher's explanation can make an instructional purpose available for examination. A further question is how a proposed response addresses the difficulty observed. These moves keep evidence, interpretation, and possibilities for teaching connected.

Praise and appreciation may support participation. The issue is whether discussion also gives participants opportunities to pursue the questions raised. Similarly, agreeing on a revision can be useful, but should not substitute for examining its rationale. The comparison suggests preserving opportunities to revisit unresolved concerns, including those that receive little attention during the meeting. Public inquiry offers a way of considering Lesson Study quality through the grounds teachers can examine when deciding what to change,

what to retain, and why. These implications for facilitation and school leadership were not tested in this study.

5.5. Limitations and Future Research

The analysis concerns one observed meeting in each school and the lesson teachers' subsequent accounts. Lesson content, school history, resources, participants, moderation, available time, and researchers' contributions formed part of the circumstances in which inquiry developed. The comparison does not isolate their effects or establish enduring characteristics of the schools. Translated records support analysis of content and sequence but not fine-grained claims about pauses, tone, or unspoken intentions.

The interviews provide retrospective accounts developed with researchers who had participated in meetings and sometimes offered interpretations or advice. They do not reveal the full process or timing of reconsideration, independently verify subsequent teaching, or establish that the observed meeting was the only relevant influence. Reported checks, clarified purposes, and proposed responses must therefore be distinguished from observed implementation.

Following concerns across successive meetings and lessons would show how questions are revisited and how teachers' interpretations enter subsequent practice. Such research could examine whether observations initially left unexplored become subjects of later collective inquiry and how sustained arrangements for Lesson Study support this work over time.

6. Conclusions

This study shows that sharing observations of students' learning does not necessarily lead teachers to examine the judgments underlying their teaching together. Across four Indonesian schools, formally similar Lesson Study routines provided opportunities to question materials, explain teaching choices, and reconsider interpretations of participation. How those opportunities developed depended on the course of discussion: participants connected some contributions, returned to some concerns, and moved past others. Shared observation provided evidence, but its implications for teaching had to be worked out through participants' responses.

Direction traces how participants pursue or set aside a concern; public inquiry identifies which grounds they examine. Across these meetings, discussion could move toward a teaching response without examining its fit with the observed difficulty. Acceptance of a change and collective examination of its rationale must therefore be distinguished.

Teachers' later accounts further showed that an observation receiving little collective examination could nevertheless inform a more differentiated judgment of a learner's capability. The scope of public inquiry and a contribution's later significance are therefore related but distinct dimensions of collective reflection. Attending to both makes it possible to examine what teachers question together and what they subsequently reconsider, without treating reported change as evidence that collective inquiry occurred.

Studying public inquiry directs attention to how observations support judgments about learners, whose interpretations can be questioned, and how proposed responses are justified. For Lesson Study, the implication is to sustain opportunities for teachers to examine the reasons behind teaching decisions as well as share what they have seen. Through that work, the interpretation of students' learning can become a shared professional responsibility.

Supplementary Materials: The following supporting information can be downloaded at https://www.mdpi.com/article/10.3390/educsci16122026/s1. Table S1: Development of focal concerns across four post-lesson meetings.

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