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Stepping up from an experienced teacher to a lesson study facilitator

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In this paper, we aim to understand how an experienced teacher, Vanda, who had already participated in two LS, has an initial experience as a lesson study facilitator. She was challenged to facilitate LS by a more experienced facilitator, who was alongside with her all the LS sessions. The two facilitators worked collaboratively to prepare the LS. Data collection included participant observation, with audio recordings of the preparation and LS sessions, and audio recordings of semi-structured interviews before and after the LS and included document collection. The results show how the dimensions of resources, orientations, goals and identity (ROGI framework) interplay in framing Vanda's concerns and practices as a novice facilitator.

Keywords: Novice facilitator, lesson study, professional development.

Introduction

Lesson study (LS) is a collaborative professional development (PD) process aimed at enhancing student learning through planning, teaching, observing, and reflecting on a research lesson. In Japan, a ‘knowledgeable other’ is invited as an external expert to provide extensive feedback especially at the end of research lessons (Hourigan & Leavy, 2021). In contrast, in Western LS there is often a facilitator who organizes and leads the process (Hourigan & Leavy, 2021), balancing expertise, teaching, and guidance, while allowing teachers to express their questions and collaboratively build knowledge (Mynott & Michel, 2022). The fact that “teachers drive the agenda and co-design the learning opportunities in real time” (Lewis, 2016, p. 538) means that many aspects of the LS sessions cannot be script in advance by the facilitator. So, preparing and facilitating the LS sessions is complex (Lewis, 2016; Mynott & Michel, 2022). It requires facilitators to understand the many facets of school life and teaching, to have knowledge about LS, content and pedagogy for collaborative and sustained teacher learning (Akiba et al., 2019; Hourigan & Leavy, 2021; Lewis, 2016). Thus, it is very important to know how such facilitators can be prepared.

Framework

Facilitators of PD for mathematics teachers play a pivotal role in strengthening teachers’ professional expertise and in bringing educational innovations into schools (Karsenty et al., 2023). They are responsible for managing PD activities, setting norms, promoting teacher collaboration, and guiding discussions. To be effective, facilitators require adequate preparation and ongoing support, as their effectiveness improves with experience (Karsenty et al., 2023; Lewis, 2016). Considering that it is important to focus on enhancing the facilitator’ decision-making abilities, which develop over time, Karsenty et al. (2023) developed the ROGI framework with four components: resources (R) involves intellectual, material, contextual, and social tools available to facilitators, highlighting the

significance of content knowledge and pedagogical content knowledge for effective facilitation; orientations (O) refers to the facilitators' beliefs and values about teaching and learning; goals (G) includes both explicit and implicit purposes for PD, such as content, process, and environment goals; and identities (I) defined as how facilitators perceive their roles within a given context.

In LS, as a collaborative PD process where teachers work together to plan, teach, observe, and reflect on lessons, the facilitator's role is even more complex. LS facilitators are expected to navigate the dynamic and often unpredictable nature of LS sessions, support teachers in real-time co-design of learning experiences, and foster a collaborative environment where teachers feel comfortable sharing ideas and reflecting (Akiba et al., 2019; Lewis, 2016). Mynott and Michel (2022) highlight the often "invisible" nature of LS facilitation, pointing the importance of the facilitator being able to subtly guide the process without dominating it. This requires facilitators to have not only content and pedagogical knowledge but also the ability to manage group dynamics, support reflective practice, and adapt to the emergent needs of the group and to the often-unpredictable nature of LS sessions (Lewis, 2016; Mynott & Michel, 2022). Additionally, novice facilitators must model effective teaching practices while simultaneously learning from the process (Hourigan & Leavy, 2021).

Akiba et al. (2019) and Clivaz et al. (2023) emphasize the importance of facilitators to engage in continuous learning and reflection to improve their practice. Mynott and Michel (2022) argue that the "invisible" work of facilitation requires ongoing learning and support, particularly for those new to the role. This aligns with the idea that facilitators often develop their expertise through a combination of formal training or collaboration with more experienced facilitators, and on-the-job experience, where they can experiment with different facilitation strategies and learn from their experiences (Clivaz et al., 2023; Hourigan & Leavy, 2021; Lewis, 2016). Therefore, understanding how facilitators develop the skills and knowledge to effectively lead LS and focusing on the evolving practice and learning of novice facilitators is essential. So, our research question is: How does an experienced teacher navigate her initial experience as a lesson study facilitator?

Methods

This research is qualitative and interpretive, with a case study design of a novice LS facilitator, Vanda (pseudonym) who had already participated in two LS. She was challenged to facilitate LS by a more experienced facilitator (Paula), who was alongside with Vanda all the LS sessions. Preparing the LS sessions involved collaborative work of the two facilitators, both teachers with several years of mathematics teaching experience (grades 7-12), who had already planned lessons together. Vanda had previously participated in two LS facilitated by Paula. In the LS facilitated by Vanda, after the first session, preparation always started with Vanda reflecting on the previous session. Eight mathematics teachers volunteered to participate in the LS. All had more than twenty years of teaching experience, except for one first-time teacher, and all but two teachers had previously participated in same LS as Vanda. The teachers decided to plan lessons on the topic "functions", to grade 10 students.

Data collection included participant observation (in preparing for and during LS sessions), with audio recordings of the preparation sessions (PS1, PS2, ...), and of the semi-structured interviews before (II) and after the LS (FI). We focus on Vanda's concerns because they shaped her actions and reflections during LS preparation and interviews, particularly in clarifying the LS process, leading

whole-class discussions, and her transition from an experienced teacher to a novice facilitator.

Table 1: Categories and subcategories considered in data analysis

Category	Subcategory	Indicators
Resources	Knowledge about and for the LS process	Refers to previous LS; uses Paula as a support to consolidate/validate a particular issue/idea
	Knowledge about the teaching approach	Refers to the different kinds of tasks; the structure of the lesson; the whole-class discussion; the dynamics of the lesson
	Material resources	Proposes training tasks; shares tasks for the classroom
	Social resources	Acknowledges the support and sharing among participants (collaboration) as fundamental to their learning
Orientations	Facilitator orientation for teacher learning	Promotes situations that she considers as important for teachers' learning; identifies/remembers episodes of practice that contribute to teachers' PD; makes decisions about the content from previous teachers' interventions
	Teacher orientation for student learning	Proposes orientations/resources/dynamics/examples that contribute to students' learning; values a particular teaching approach
Goals	Content goals	Identifies important aspects for teacher learning
	LS process goals	Makes decisions to support teachers learning about the LS process
Identity	The way she sees herself	Recognises/positions herself as a teacher or/and as a facilitator
	How others see him/her	She is recognised as a teacher or/and as a facilitator

Based on Vanda's concerns, and as we focused on her role as LS facilitator, to analyse her processes of decision-making we adjusted the components of ROGI framework (Karsenty et al., 2023) using a deductive and inductive coding process (Table 1): to resources we added knowledge mobilized regarding and for LS as well as knowledge mobilized about the exploratory teaching approach; in orientations we considered the facilitator's guidance for teacher learning, which encompasses ideas/conceptions about how teachers learn (the interplay with practice, discussions/reflections with the construction of ideas, "teachers learn by engaging in practice"), along with the teacher's orientations for student learning; in goals, we considered the goals for the LS process, namely the facilitator's decisions for teachers to learn about the LS process; and in identities we considered the data referring to how the facilitator perceives herself, both as a teacher and a LS facilitator.

Results

Clarifying the LS process

In the initial interview, Vanda spoke about her experience as a LS participant and expressed her concern in clarifying what work would be done at each stage of the LS so that all participants got a clear idea of the process (goals).

Vanda: I think we must present the concept of LS, don't we? And for everyone to reflect on what they think... Either those who have already been [in LS] or those who are new to it (II).

To address this concern, Paula asked her about what resources they could use, when preparing session 1, immediately after the interview. Vanda suggested using a form that the teachers could fill in with questions about LS, based on their previous experience as LS participants. Paula questioned whether, before this form, it would be important for the teachers to read a policy brief which she shared with Vanda before the LS. After some discussion, Vanda suggested using the form as a resource for participants to record their ideas about LS after the session. To “present the concept of LS” (PS₁), she suggested asking the participants to read the document before the session and to adapt presentation (ppt) they used to share their work on another LS (material resources).

Vanda: To share this [policy brief] for them to read before the session... In the LS session, presenting the [LS] diagram... We can give some examples, or don't you think so? Maybe not, because we are going give them answers, aren't we?... [We could] ask people who have experienced LS... What they would do differently or what they would do the same? ... In our planning, we write “steps on the diagram... To be completed collectively”, that's it. This way we can understand if everyone, at least, identifies the LS stages correctly... (PS₁)

Vanda facilitated the session as planned. Although not all participants did the suggested reading, they all shared their ideas, mainly those who had participated in LS before, or asked questions, particularly the first-time teachers. Reflecting on how she facilitated session 1, Vanda acknowledged the collaboration among the participants as key to their learning (social resources), and emphasised their active role in the LS sessions, drawing an analogy with the work she does with her students (teacher orientation to student learning).

Vanda: [As] there were people who had already been [to LS] who shared their ideas, those who had not, may have got a much better idea than the one shared by a facilitator... As with our students... They are much better at sharing with each other than we are, sometimes... It was in line with what I'd hoped would happen. (PS₂)

Thus, drawing on her knowledge of LS and participants, and on the discussions with Paula (resources), Vanda selected different resources (material and social resources) and made several decisions about how to facilitate the session, aiming to clarifying the LS process for all participants. Emerging from her concern to clarify the goals for each session, Vanda suggested using a PowerPoint presentation with the LS stages to be completed in the session, based on participants' ideas, rather than presenting a pre-filled slide. In doing so, Vanda created situations she believed would be more valuable for participants' learning (facilitator's orientation for teacher learning).

To lead productive whole-class discussions

Referring to her teaching practice (the way she sees herself as a teacher), Vanda emphasised her

increased attention to students' solving strategies and representations, as well as to whole-class discussions, because of participating in LS:

Vanda: The way I begun to see the kids' answers and allow them to share... My teaching practice changed a lot... I used to focus on a particular answer, and it would go on the board. Last year, I found myself wanting them to do it, to show it in a different way, and I began to see things that I had never really thought about... I think that the more we work in this format, so to speak, the more we can innovate... It is only by doing it that the teacher realizes whether it works or not. (II)

Reflecting on her previous LS experience, Vanda noted that the task they designed was too extensive and did not lead to much discussion, prompting participants to suggest that in future LS more attention should be paid to leading whole-class discussions. In the initial interview, Vanda emphasised that in the planning should be important consider time for the students' autonomous work while leaving time for them to "explain their reasoning, and I think this is also important... We want them to expose themselves and... Discuss the results in the lesson" (II).

Considering this, when preparing session 1, Paula shared with Vanda a video in which a teacher led a whole-class discussion, starting from a task that the students solved using different strategies. Vanda stressed the importance of recording in the session plan and discussing with the teachers "how do we... record and choose questions [solving strategies] for the discussion... 'How to select strategies for the whole-class discussion?'" (PS₁). In session 1, the teachers solved the proposed task, but they struggled to align the task with the curriculum, which limited the time for whole-class discussion. Reflecting in this session, Vanda stressed the importance of active student participation in lessons and leading the whole-class discussion: "One of the things that I think has to be a concern, really, is that in the lesson we are going to observe, the students must play an active role, and we have to see them debating ideas" (PS₂). From this concern, her teaching practice, and the way she sees herself as a teacher, Vanda, "very keen on 'seeing is believing, experiencing is knowing'", as she stated in the initial interview, suggested having the teachers play the role of students:

Vanda: Getting them to work on the task and run the simulation... 'Kids [colleagues], we have a task for you. We present the task, ... 'You have x time to complete it.' We collect the answers, show them if needed for them to explain their ideas, and then we explain that this is what we are aiming for [in the research lesson]. (PS₂)

In session 2, Vanda monitored the teacher's work on a task she proposed, and encouraged them to share their ideas, but she ended up explaining teacher's answers. Reflecting on this session, she identified the preparation to leading the whole-class discussion as a less successful aspect. She pointed to leading this moment of the lesson among peers and managing time as challenges:

Vanda: What went wrong? Time management, on my part, as the 'leader'... We had so much planned... And we didn't do half of it... Perhaps there should have been more time for the colleagues to clearly explain how and why they did what they did... It's very difficult to simulate a teacher explaining to a teacher... When I look at my colleague's solving strategy, I'm following it, right? (PS₃).

From this reflection, when planning session 3, Paula and Vanda discussed how to plan the whole-class discussion, based on the task they planned to propose. Initially, Vanda suggested a short discussion, similar to session 2, making more detailed planning for the research lesson. However, as leading whole-class discussions was a challenge pointed by Vanda and these participants in previous LS, Paula questioned whether preparing such discussion could be part of the planning process "Is it very different to do it with this task or another ...?" (PS₃). She then suggested adding students' answers for teachers to analyse, select and sequence as a starting point for planning the whole-class

discussion. Vanda agreed that it was important for teachers to plan the whole-class discussion more thoroughly, analysing possible students' answers. She also emphasized the importance of teachers anticipating students' strategies and difficulties and using them to prepare the whole-class discussion. When facilitating session 3, Vanda monitored teachers' work, photographed their answers and displayed those that she considered interesting, giving teachers the opportunity to explain them, to ask questions about their colleagues' answers and to reflect on their teaching practice. There was also time for her to show on the board the students' answers, previously selected on PS3, prompting further discussions about selecting and sequencing students' answers and leading whole-class discussions.

Thus, Vanda identified leading whole-class discussion as a key aspect for teachers' learning (content goals), based on teachers' feedback from a prior LS (facilitator's orientation for teacher learning), and valuing it in her lessons (identity). She suggested leading whole-class discussions based on the teacher's work in tasks she proposed, as she values teacher learning through practice (orientations). Although she faced challenges in leading the discussion with the participants without dominating the discourse, Vanda drew on her pedagogical knowledge and discussions with Paula (resources), to lead discussions and create a safe environment for participants to share ideas, ask questions, and reflect on their teaching practice.

Becoming a LS facilitator being an experienced teacher

Referring to her view of herself as a facilitator (identity), in the initial interview, Vanda stated that during the teacher education process she led, the aim was to "teach [the teachers] how to use a specific software". She added that facilitating LS would be quite different, as it requires "being able to tailor what you are going to work on in each session to meet the participants' needs" (goals), emphasizing this as both a challenge for the facilitator and a valuable aspect of LS: "I don't think I have this... getting people to think, to go along with what you need, while also considering their needs... I don't have this role of facilitator." (II)

In her view, it would be important to collaboratively plan the sessions with Paula and to develop her knowledge about LS by reading articles (resources):

Vanda: The one thing I know I'm really going to have to do is to be constantly... Working with you. Because I can't get there on my own. Will I have to read a lot? Yes... I'm going to have to read a lot about this. Maybe the reading that I didn't do initially [as a participant], I will have to do carefully. Because I think it's important, right? To share knowledge, one must be knowledgeable. (II)

Afterwards, Vanda read an article about LS carried out in Portugal. She also had other articles from a LS in which she participated. However, referring to herself as a facilitator (identity) in the first LS sessions, Vanda kept saying "I know how to teach kids, I don't know how to teach colleagues" (PS₃).

In the final interview, Vanda stated that she felt more like a colleague than a facilitator, pointing to planning and making the global organisation of the LS as challenging: "I feel like a colleague. Facilitator ... OK, I know how to hold a conversation, in quotes, with colleagues... Doing this work myself [e.g., planning the session] that you do so well, I don't feel I can do it."

Vanda emphasised the collaborative work with Paula as essential for preparing sessions (resources):

Vanda: Our discussions before the sessions were essential, weren't they? I think that if they hadn't existed, it would have been very different... And it was thinking and finding

strategies for getting round issues, problems, in other words, challenges, that the benefit lies... For me it was very rich... It wasn't just one person thinking about the session, was it? We were sharing ideas. (FI)

Although Vanda felt she could not prepare a LS session independently, she became comfortable drawing session plans in later sessions, emphasizing the collaborative work with Paula and having her available during the sessions (resources). She added that, even though she still had a lot to learn as a facilitator, working collaboratively on session preparation enhanced her learning as a LS facilitator:

Vanda: [It was] very easy to do [facilitator's role] because you're always there... It went far beyond my expectations... I think I have a lot to learn, but I learnt a lot... I didn't even feel like a facilitator at first, did I? Clearly, the preparation we did in the last sessions had much more input from me than the earlier ones. (FI)

Vanda pointed out that LS facilitators “have to deal with too many unpredictable things” (final interview) and need to have in-depth knowledge about LS. She emphasized the importance of facilitators having prior experience as LS participants “to then be able to be on the other side” (final interview), and of learning from practice:

Vanda: Training [facilitators] would maybe involve doing it [facilitating LS], wouldn't it? ... Or having training, or someone working with the facilitator... I like 'doing it'... You have the training, and you get a working group at school, and you, at school, play this role... Planning, doing, planning, doing. I think it would be important, yes, for anyone who wants to become a LS facilitator. (FI)

In Vanda's perspective, facilitators learn through practice, either with teacher educators or other LS facilitators. She highlighted the importance of the “plan, do, plan, do” cycle, similar to the work carried out in the LS mentioned in this paper.

Thus, Vanda reflected on the preparations of the LS sessions and her identity as facilitator, noting the challenge of tailoring the sessions to participants' needs and emphasising the importance of collaborative planning and discussing with Paula (knowledge about and for the LS process). Initially she considered herself unprepared for planning sessions and for her role as facilitator, and by the final interview, she felt more prepared to handle the complexities of facilitating LS (identity), recognizing that each session's preparation offered an opportunity for her growth and learning as LS facilitator (knowledge about the LS process). She emphasized that LS facilitators need to have extensive knowledge of LS, prior experience as LS participants, and learn through practice.

Conclusion

The analysis of Vanda's initial experience as a LS facilitator illustrates the intricate balance of identity, orientation, goals, and resources in her journey from a novice to a more confident facilitator. Navigating the complexities of facilitating LS, she continuously sought to refine her practice, drawing on her experiences, and relying on both material and social resources, such as collaborative planning with Paula, that she pointed as essential in shaping her facilitation practice, and relevant literature. Although initially Vanda expressed uncertainty about facilitating the learning of colleagues, in contrast to her confidence in teaching students, her orientations, particularly her belief in teacher learning through practice and collaborative work, informed her decision to simulate classroom scenarios and encourage collaborative learning among teachers (as in Clivaz et al. (2023) and Akiba et al. (2019)). Key goals for Vanda were clarifying the LS process and enhance participants' knowledge, particularly in leading whole-class discussions. As she gained experience as a facilitator, she provided more time for teachers sharing their ideas and reflecting on their teaching practice. This reflects the complexities of assuming

the ‘teacher of teachers’ role (Hourigan & Leavy, 2021) and highlights the importance of aligning session goals with participants needs. Despite her initial uncertainties about her role as a facilitator and her ability to lead colleagues, through continuous reflection, collaborative planning with Paula, and practical experience, Vanda’s identity as a facilitator evolved, shaped by her initial concerns and experiences and later by her growing confidence in leading LS sessions. By the final interview, she felt more confident in her ability to tailor LS sessions to participants’ needs and acknowledged the importance of “doing” as central to her learning and growth as LS facilitator, as in Lewis (2016) and Hourigan and Leavy (2021). Vanda underscored the importance of extensive knowledge of LS, prior LS experience as a participant and the importance of continuous practice, reinforcing the “plan, do, plan, do” cycle as essential for growth as LS facilitator.

Vanda’s reflection further enhanced her belief in learning through practice, the value of reflective practice and collaboration in professional learning. Her experiences highlight the dynamic nature of the LS process, where facilitators not only guide others but also engage in continuous learning themselves, adapting to the needs of participants and the demands of each session. By the end of the LS, Vanda acknowledged that while she still had much to learn, she had stepped up from being a hesitant facilitator to a more confident one, feeling more prepared to handle the complexities of facilitating LS.

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