



From theory to practice: Pre-service teachers' insights on lesson study in work-integrated learning

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Abstract—Work-Integrated Learning (WIL) is crucial in exposing pre-service teachers (PSTs) to the realities of the classroom. However, many PSTs face challenges in lesson planning, lesson delivery, and reflective learning, particularly in the diverse, resource-constrained South African schooling context. The lesson study approach is recognised for enhancing PSTs' lesson preparation and presentation skills. Drawing on Lave and Wenger's (1991) situated learning theory (SLT), this qualitative study explores PSTs' perceptions of lesson study during WIL. An interpretivist paradigm is applied to deduce PSTs' views on lesson study when practically implementing the theory of teaching during WIL. The findings suggest that PSTs perceive lesson study as a collaborative learning tool that encourages them to consider the impact of contextual factors on lesson planning and delivery, particularly in diverse and resource-constrained contexts. The study highlights the potential for lesson study to enhance the WIL component of initial teacher preparation programmes in South Africa.

Keywords: Initial teacher education programmes, Community of practice, Lesson planning, Situated learning theory

To cite this article (APA): Herman, T., Botes, W., Mpisi, A., & Herman, W. (2026). From theory to practice: Pre-service teachers' insights on lesson study in work-integrated learning. *International Journal of Studies in Psychology*, 6(1), 1-7. <https://doi.org/10.38140/ijpsy.v6i1.2292>

I. INTRODUCTION

TEACHER education programmes aim to equip pre-service teachers (PSTs) with the necessary competencies required in teaching and learning contexts. Globally, participation in the practical component of teaching is regarded as an essential aspect of initial teacher education (ITE) programmes (Chou, 2019; Darling-Hammond, 2017; Teacher Education Ministerial Advisory Group, 2014). In South Africa, practical learning in the form of work-integrated learning (WIL) is a mandatory element of ITE programmes (Department of Higher Education and Training, 2015). South African institutions offering teacher education programmes typically partner with schools, enabling PSTs to apply their teaching competencies in authentic work situations. PSTs thus apply the theoretical aspects of the ITE programme when they facilitate teaching and learning in classrooms. However, literature indicates that during WIL, PSTs experience challenges such as: implementing learner-centred teaching, differentiating instruction to accommodate diverse learner needs, experiencing minimal peer collaboration, receiving limited guidance from lecturers or mentor teachers, having few opportunities for reflective learning, and contending with anxiety, excitement, fear, and feelings of isolation (Botes et al., 2022; Bouwer et al., 2021; du Plessis, 2020; Blaik Hourani, 2012; Kwatubana & Bosch, 2019; Mkhasibe & Mncube, 2020; Olawale, 2024; Ramsaroop & Gravett, 2017; Van Putten, 2018). In South Africa, challenges such as overcrowded classrooms, limited resources, and inadequate school infrastructure are common (Mokgwathi et al., 2023). South African teachers are expected to differentiate instruction according to learners' diverse linguistic, cultural, and socio-economic backgrounds (Department of Basic Education [DBE], 2015).

As lecturers assessing lesson presentations in schools, we noted that PSTs occasionally faced challenges in lesson planning and facilitation (applying theoretical knowledge in practice), the lack of differentiated

instruction to promote inclusive teaching and learning, and inadequate opportunities to reflect on the lessons they presented. These challenges could impact the professional development of PSTs, potentially influencing the quality of education they provide to learners (Adebola & Tsoetsi, 2022). In the institution where this study was conducted, the first two years of the four-year initial teacher education programme focus on the theoretical aspects of the teaching profession. The programme's third and fourth years envisage applying theoretical knowledge as PSTs prepare and present lessons at schools to which they are assigned during WIL sessions. Pre-service teachers enrolled for the Postgraduate Certificate in Education (PGCE) programme embark on a one-year full-time ITE programme after completing a three- or four-year bachelor's degree (Kwatubana & Bosch, 2019). The development and practical implementation of lessons might not come naturally to PSTs. As a result, PSTs might benefit from support, especially when they engage in WIL at schools.

Participation in lesson study sessions is one option to support PSTs in addressing some of the challenges mentioned (Lewis et al., 2011). Research on PSTs' views of a lesson study approach to WIL in ITE programmes in the South African context is limited. This leads us to ask: What are PSTs' insights on participating in lesson study during WIL? Their insights could shed light on whether participation in lesson study sessions mitigates some of the challenges PSTs experience during WIL. This could also inform a decision to advocate for piloting a lesson study approach for the WIL component of the teacher education programme at this university.

II. LITERATURE REVIEW

The Lesson Study Approach (LSA), originating in Japan, is an effective model for teacher development and is widely recognised for enhancing PSTs' lesson preparation and presentation skills. This approach involves PSTs collaboratively planning lessons, observing each other's lesson presentations, and reflecting on the presented

lessons (Fernandez, 2002). The LSA draws inspiration from Vygotskian socio-cultural theory, emphasising the importance of social interactions and cultural contexts in the learning experience (Purwanti & Hatmanto, 2019). Purwanti and Hatmanto (2019) explored the influence of the LSA on PST development, finding that the LSA was instrumental in enhancing teaching capacities, pedagogy, and innovation among PSTs. Similarly, Triyanto and Handayani (2019) found that the LSA significantly improved PSTs' pedagogical knowledge, classroom management, and assessment methods. Thus, it is assumed that engagement in lesson study enhances PSTs' lesson planning and overall teaching and learning experiences during WIL.

A systematic review by Gulya and Fehérvári (2023) explored how the LSA influenced PSTs' ability to practice culturally responsive teaching during WIL. Their study described how collaborative lesson planning and post-lesson reflection helped PSTs develop culturally responsive and inclusive lessons. Apart from the professional development of PSTs, the LSA is said to foster socio-cultural awareness among participants (Dudley, 2014). Lewis et al. (2011) explain that the LSA encourages critical reflections within a collaborative environment, allowing PSTs to consider how to plan lesson facilitation suitable for diverse classroom contexts. The iterative cycles of the LSA stimulate discussions about learners' diverse backgrounds, learning needs, and classroom social dynamics (Lewis et al., 2011).

Furthermore, engagement in the LSA exposes PSTs to their peers' diverse perspectives and may foster an appreciation for one another's viewpoints (Dudley, 2014). Additionally, the LSA promotes peer support and relationships within a collaborative learning environment, facilitating the exchange of ideas and best teaching practices. Studies by Botes et al. (2022) and Xu and Pedder (2015) indicate that pre-service teachers who participate in lesson study experience increased commitment and motivation, which is attributed to the collaborative nature of the approach. Furthermore, work by Marcos et al. (2009) confirms that the LSA not only enhances the quality of lesson planning and instruction but also shapes PSTs' teacher identity. The process of jointly planning, observing, and reflecting on lessons encourages PSTs to examine their assumptions and beliefs about teaching in diverse classrooms, thereby fostering a deeper socio-cultural awareness.

Additionally, LSA's engaging and collaborative nature helps reduce feelings of isolation during the teaching practicum. A support system is crucial for building PSTs' confidence and resilience in the school context. Cajkler et al. (2015) found that PSTs felt more confident and less anxious when engaging in lesson study, owing to mutual peer support. Muller (2024) suggests that lesson study can encourage PSTs to become part of a community of practice.

Communities of practice (CoPs) are described as "...groups of people who share a concern or passion for something they do and learn how to do it better" (Wenger-Trayner et al., 2023, p. 11). Wenger-Trayner and Wenger-Trayner (2015) explain that three elements structure CoPs, namely: a domain (the group's shared concern); a community (the individuals within the group who earn each other's trust and build a sense of belonging); and a practice (the activities the group engages in to address the shared concern). A CoP characteristically provides a safe space for members to regularly share challenges, ideas, successes, resources, and reflections on their teaching experiences (Lave & Wenger, 1991). Lewis et al. (2011) note that such environments promote personal and professional development.

The LSA and CoPs are interconnected through their shared focus on continuous collaborative learning that can be encouraged in both spaces. The success of a lesson study approach and a CoP approach to learning depends on the mutually beneficial social interactions between group members. There is potential for PSTs who participate in lesson study to develop into a CoP as they share in sharpening their pedagogical repertoire and responsiveness to accommodating all learners in their pre-service teaching contexts. LSA and CoPs offer a supportive approach for planning, exploring, and reflecting on teaching practices.

III. THEORETICAL FRAMEWORK

This study adopts situated learning theory (SLT) as its theoretical framework. Situated learning theory purports that learning is situated within the social interactions encountered during our lived experiences (Lave & Wenger, 1991). According to situated learning theory, social interactions within a specific context shape learning in that context. Learning is most likely to occur in settings intentionally structured to facilitate constructive engagement among individuals pursuing common aims. Lesson study during WIL offers PSTs the opportunity to collaborate on lesson facilitation. The cyclical reflective lesson study process can provide a safe and supportive space for collaborative lesson planning, thereby alleviating the previously mentioned challenge of solitary lesson planning (Botes et al., 2022). Throughout the WIL session, lesson study provides PSTs with an opportunity to reflect on what they have learned. Based on lesson study, this study aligns with situated learning theory's focus on learning from lived experiences (Lave & Wenger, 1991).

Work-integrated learning enables PSTs to transition from observing lesson presentations delivered by experienced in-service teachers to enacting lesson delivery themselves. In this progression, PSTs shift from occupying a peripheral role as classroom observers to assuming an active participant role in the teaching practice. Such movement resonates with Lave and Wenger's (1991) notion of *legitimate peripheral participation* in situated learning theory, in which a learner becomes engaged in an expert's practices to acquire professional competence. Thus, WIL allows PSTs to integrate theoretical understandings of pedagogy with experiential engagement in authentic classroom contexts. In so doing, the practical act of teaching becomes embedded within their lived professional experience, marking a critical step in the trajectory from theoretical preparation to pedagogical enactment. We therefore regard Lave and Wenger's (1991) situated learning theory as a suitable framework to interpret PSTs' views on the use of lesson study during WIL.

IV. METHODS

Research approach

The qualitative research approach was deemed suitable for a study focusing on PSTs' perspectives on participating in lesson study during their WIL experience (Merriam & Grenier, 2019).

Research paradigm

We locate this study in the interpretive paradigm, which, according to O'Donoghue (2019), advocates for

"...social interaction as the basis for knowledge. The researcher uses their social skills to understand how others perceive their world. Knowledge, in this view, is constructed by mutual negotiation and is specific to the situation being investigated" (p. 9).

Pre-service teachers who volunteered for the research participated in four informal sessions with the research team before the WIL period. These get-togethers included an explanation of how the project would unfold, a demonstration of Donna Ogle's (1986) K-W-L reading strategy, and two sessions where we used lesson study to prepare a Natural Science lesson using the K-W-L strategy. These informal exchanges were designed to help participants relax and get to know one another. It also guided them through the lesson study process and shared at least one strategy that could be incorporated into most content area subjects.

Research design

A case study research design was chosen to enable a contextually relevant discovery of PSTs' views on lesson study. Case studies enable a thorough examination of a specific occurrence within a defined system (Yin, 2018). For this study, the case is represented by seven final-year PSTs from one university, sharing their application of lesson study during WIL in South African schools. The case study design provides an outline for portraying PST experiences within a single South African context. This portrayal, in turn, may help contextualise findings within the broader scope of South African initial teacher education programs.

Participants

Seven PSTs volunteered as participants. Two were registered for the Bachelor of Education (B.Ed.) Intermediate Phase programme (IP), three for the B.Ed Senior and Further Education and Training (SP & FET) programme, and two for the PGCE programme at a South African university. The small sample size was due to participation in this study being strictly voluntary.

Data collection instruments

Our data collection instrument was a focus group interview. The focus group interview served as a platform for participants to engage in in-depth discussions of their experiences working together during lesson study sessions. We believed that, after engaging in lesson study sessions, students would be comfortable and familiar enough to share both positive and negative feedback on their experiences, thus providing rich, contextualised qualitative data that might not have emerged through individual data-collection methods.

Research site

The research site is a public higher education institution. The Faculty of Education offers undergraduate and postgraduate programmes that prepare teachers to meet the educational needs of diverse and under-resourced contexts. A strong emphasis is placed on WIL, enabling pre-service teachers to integrate theory and practice within authentic school settings and reflect on their professional learning.

All B.Ed. and PGCE PSTs engage in mandatory teaching practice (TP) and work-integrated learning (WIL). TP takes place weekly, on campus. It includes, for example, various teaching media skills, the demonstration of teaching strategies, and micro-teaching. WIL involves visits to schools over a set period. PSTs observe the teaching and learning process between in-service teachers and learners during WIL. When first- and second-year students embark on WIL, they learn from practice. In the third and fourth years, the focus shifts to practice-based learning as third- and fourth-year PSTs present lessons to learners. These PSTs receive guidance and feedback from mentor teachers they are assigned to and from university lecturers who assess the lessons. Lesson presentations in schools provide PSTs with the opportunity to apply the theoretical knowledge they have been exposed to – moving from theory to practice. PSTs enrolled in the one-year PGCE programme are tasked with presenting lessons after a two-week period of classroom observations. Their observation period is followed by eight weeks of observation, during which they must present at least one lesson per day. This context offered a relevant setting for exploring pre-service teachers' experiences of lesson study during WIL.

Data analysis

Their collective insights, perceptions, and experiences provided a nuanced understanding of the use of lesson study in our initial teacher education programmes. The focus group discussion was digitally recorded and then manually transcribed verbatim to obtain the data in written format. One research team member served as a critical monitor, observing the data collection and analysis processes, thereby facilitating analyst triangulation to enhance the dependability of the findings. We employed reflexive thematic analysis to interpret the data, aiming to gain insights into PSTs' perceptions of using lesson study during WIL (Braun & Clarke, 2019). The focus group interview was audio-recorded and transcribed verbatim by the main author to ensure accuracy and close engagement with the data. Data were analysed using reflexive thematic analysis as outlined by Braun and Clarke (2019), which conceptualises meaning-making as an interpretive process shaped through researchers' reflexive engagement.

All authors engaged in the analysis. Each author independently read and re-read the transcript to familiarise themselves with the dataset and gain an overall understanding of PSTs' perceptions of using lesson study during WIL. Reflective notes were recorded during this phase.

An inductive coding process followed, with each author identifying meaningful features of the data relevant to the research aim. Coding prioritised patterns of meaning rather than frequency. Coding was flexible, allowing data segments to be coded in multiple ways. The

authors met regularly to discuss codes, examine similarities and differences in interpretation, and reflect on how their professional backgrounds informed analytic decisions. Codes were then organised collaboratively to develop potential themes. This was done by clustering related codes and exploring shared meanings across the dataset. Themes were refined through iterative discussion to ensure coherence and alignment with the research question. Reflexivity was maintained by critically examining assumptions shaping interpretation. The final themes were defined and named, with illustrative data extracts selected to support analytic claims. Consistent with reflexive thematic analysis, the analysis prioritised interpretive depth and reflexive transparency rather than inter-coder reliability. This facilitated the authors' understanding of PSTs' experiences with lesson study in the WIL context.

Ethical considerations

Data collection commenced once ethical clearance to conduct the study was obtained from the university's Senate Research Ethics Committee (reference number: SREC: 0538/2024n). Data were collected from final-year PSTs who had been informed about the research project, had volunteered to participate in the study, and had signed the consent forms. Ethical responsibility was prioritised throughout the study. Ethical clearance to conduct the research was obtained from the Senate Research Ethics Committee of the university where the research was conducted (reference number: SREC: 0538/2024n) prior to the commencement of data collection. No research activities were undertaken before formal ethical approval was granted. All participants were fully informed about the purpose and process of the study and were invited to participate voluntarily. Written, signed informed consent was obtained from all participants prior to their involvement in the study. The informed consent process included a clear explanation of the research aims, the roles and expectations of participants, and the researchers' responsibilities. Participants were informed of their right to withdraw from the study at any stage without providing a reason and without any negative consequences. Procedures for data collection, use, storage, and management were explained in detail. Measures to ensure confidentiality and anonymity were clearly communicated, and pseudonyms were used in all transcripts and reports. Participants were informed that the findings could be disseminated through journal publications and that the data might be used for future related research. Data were securely stored and accessible only to the research team.

V. RESULTS AND DISCUSSION

Biographic results

Table 1: Biographic results

| Participant | Qualification | Programme | Year of study | Subject Specialisation |
|-------------|---------------|-----------|------------------------------------------|------------------------------------------------------|
| PST K | B.Ed. | IP | 4 th year of 4-year programme | Life Sciences, Social Sciences |
| PST S | B.Ed. | IP | 4 th year of 4-year programme | Life Sciences, Social Sciences |
| PST X | B.Ed. | Sen & FET | 4 th year of 4-year programme | Languages, History |
| PST T | B.Ed. | Sen & FET | 4 th year of 4-year programme | Life Sciences, Natural Sciences, and Mathematics |
| PST P | B.Ed. | Sen & FET | 4 th year of 4-year programme | History, Social Sciences |
| PST F | PGCE | Sen & FET | 1 st year of 1-year programme | Natural Sciences, Life Sciences |
| PST W | PGCE | Sen & FET | 1 st year of 1-year programme | Business Studies, Economics, and Management Sciences |

B.Ed: Bachelor of Education

IP: Intermediate Phase

Sen & FET: Senior and Further Education and Training

Thematic results

Considering contextual factors in lesson planning

The theoretical knowledge of the impact of contextual factors on teaching and learning was addressed with PSTs during their coursework before they embarked on WIL. However, during WIL, PSTs gain real-world experience with the influence of contextual factors on learners' learning and, subsequently, on lesson planning and facilitation. Contextual factors that could influence the teaching and learning processes are, for example, the socio-economic status of the community in which the school is situated, the culture of teaching and learning, the unique routines, and the physical and human resources available at different schools. PSTs shared insights into how teaching and learning were influenced by contextual factors, including educational inequities, language barriers, and varying school contexts.

Social stigmas and disadvantaged contexts

During the focus group interview, PSTs referred to 'township' and 'kazi' schools. We provide a brief explanation of these terms. In apartheid-era South Africa, the Group Areas Act was enacted in 1953 by the then-government. This resulted in separate residential areas for each race that the apartheid government assigned to people (Peters, 2004). The areas where black South Africans were assigned were called townships (Davids, 2018). The schools in these residential areas are often still referred to as 'township schools' or 'kazi' schools. The legacy of apartheid has many South African schools facing financial constraints, overcrowded classrooms, and inadequate resources while dealing with learners experiencing various challenges stemming from poor socio-economic conditions (Thaba-Nkadimene & Mmakola, 2019).

PSTs reported a negative view of township schools. Their comments also indicate their awareness of the stigma and the need to change this. Additionally, PSTs indicate that their exposure to schools in disadvantaged contexts contributed to a more empathetic approach to teaching in these contexts.

"When I told my sister I was placed in a township school, she asked, 'Will you be able to handle it? Do you know those learners?' But I always felt that was not fair. Nobody chooses where they grow up. They do not choose their circumstances" (PST X).

"I was not sure about this at first... but when I went to the school, I realized that it is the same. It is just that I was in town before, and now I am in Kasi (the township). The learners are the same; they just need guidance and support" (PST S).

PST X indicates an inclination towards an asset-based approach to teaching with a rejection of deficit-based narratives. PST S's initial bias toward township schools is revealed together with the acknowledgement that it was unwarranted. Both PSTs shared with the group the need for empathy and consideration of learners' diverse contexts and lived experiences. PSTs call for empathy and understanding of learners, which can significantly contribute to their overall well-being and, ultimately, to their learning. The collaborative nature of lesson study created the platform for PSTs to articulate the stigma associated with township schools and to advocate for a change in attitude towards this negative view. They voiced the need to develop greater empathy for their learners, challenge stigma, and strive to maximise their potential regardless of background. Thus, Lesson study offers PSTs the opportunity to encourage one another to pursue social justice by continuously seeking to improve their pedagogical strategies and attitudes towards learners. The comments reflect PSTs' capacity to see beyond material disparities and to focus on responsive teaching strategies.

Inclusive teaching practices

Participation in WIL exposed PSTs to some of the barriers learners encounter. Lesson study provided PSTs with opportunities to share ways to mitigate potential barriers. Engagement with a lesson study approach facilitated deeper reflection on social ills, such as trauma, poverty, and violence, which learners are often exposed to. PSTs noted the importance of aligning lesson planning with learners' contextual realities. As PST X explained:

"It is so much more important that we learn to be empathetic and to show love, care, and kindness because a lot of times there is abuse going on, substance

abuse, and domestic violence. Lesson planning must take these realities into account" (PST X).

This suggests that the collaborative and reflective processes embedded in lesson study can support PSTs to move beyond simply delivering content. Exchanging ideas and experiences within lesson study can facilitate PSTs' consideration of the impact of learners' backgrounds on their learning. Lesson study could serve as one tool in preparing PSTs for future collaborations to access context-relevant inclusive teaching practices when they enter the profession.

Language barriers were also identified as a key challenge during WIL. PSTs had to modify lesson delivery and collaborate with peers, especially when teaching in English to predominantly Afrikaans-speaking learners. The reflection by PST T points to the advantage of collaborating when planning lessons so that all learners can be included:

"Most of the learners were Afrikaans-speaking, but we had to plan English lessons. We had to work together to find strategies to make it easier for them (the learners) to follow along" (PST T).

Another example of inclusive teaching is noted in a reflection on the incorporation of Donna Ogle's (1986) K-W-L reading strategy in a lesson by PST X:

"During the lesson study meetings, it was suggested that we use the KWL chart, which gave me an idea for helping my learners better understand new words. Additionally, I used pictures for students (learners) struggling with vocabulary, and that changed how I structured my lessons" (PST X).

The PSTs' confidence, autonomy, and agency are illustrated when they adapt the K-W-L reading strategy to better suit learners' needs. The incorporation of visual supports demonstrates how the learners' needs, as a contextual factor, informed the PST's pedagogical creativity and innovation. The PST's actions provided learning support to learners and served as evidence of inclusive teaching. Additionally, it emphasises learning through practice, aligning with situated learning theory.

The interactions during lesson study sessions enabled PSTs to collaboratively develop classroom practices to enhance learners' inclusivity within their educational contexts. Consequently, PSTs were equipped to implement and assess the effectiveness of the jointly proposed methodologies in their respective classroom settings. Collectively, PSTs assisted one another in modifying teaching strategies to address learners' linguistic diversity. They became increasingly aware of the varied cultural, linguistic, and socio-economic dimensions that shape learners' educational experiences. Taking these factors into account, PSTs refined their future lesson plans to establish an inclusive learning environment for learners. The lesson study thus served as a platform for PSTs to develop inclusive teaching practices.

Basic resource constraints and pedagogical improvisation

Physical and human resources in schools include, but are not limited to, insufficient teaching and learning materials, overcrowded classrooms, inadequate, unsafe, or non-existent physical facilities such as libraries, and inconsistent access to water and electricity (Mokgwathi et al., 2023; Marais, 2016). A persistent issue observed by PSTs was the sporadic availability of essential resources such as water and electricity in schools, which necessitated that PSTs adopt flexibility and innovation in their lesson planning and delivery. PST K highlighted the inconsistency of these fundamental resources:

"Sometimes there was no water or electricity, but I will always appreciate the fact that everyone (participating in the lesson study) and I would always be like: 'Never rely on the school electricity! Always try to prepare for the bare minimum'" (PST K).

Schools that are under-resourced are less likely to possess the means to obtain generators and water storage facilities to address challenges related to insufficient water or electricity supplies. Consequently, it falls upon teachers to navigate teaching and learning within these constraints. Through lesson study sessions, PSTs prepared one another for these challenging realities. Moreover, they discussed the need to mitigate the potential effects of frequent water and electricity interruptions on teaching and learning. This highlights the development of practical pedagogical strategies when teaching in resource-limited

environments. Additional planning is undertaken to prepare for the potential loss of electricity, as illustrated by one participant.

"... maybe I should play a video, or if I can't play a video, have a picture instead as a backup" (PST W).

The lesson study facilitated the exchange of strategies among prospective teachers, equipping them for challenging professional settings. Despite basic resource constraints in some educational institutions, PSTs recognised the imperative to adapt their instructional approaches to support learning.

Fostering teacher-researchers and communities

Lesson study as an initiator for teacher-researcher mindsets

The same PST was then selected to explore using a visual KWL chart when embarking on an action research assignment for one of the modules in the ITE programme. The PST notes:

"I used the KWL chart as part of my classroom action research project" (Student X).

Participation in the lesson study sessions appeared to be a catalyst for further experimentation with the K-W-L strategy. The PST selected to further explore the implementation of an image-filled K-W-L chart as a topic for an Action Research Project in one of the modules. Further experimentation with the adapted KWL chart, as part of a research assignment, signifies the initiation of the PST's identity as a teacher-researcher. Lesson study, embedded in situated learning theory, supports PSTs in internalising and improvising pedagogical strategies when they share their contextualised teaching practices and participate in reflective inquiry.

Lesson study as a community of practice (CoP)

A community of practice (CoP) comprises three key elements: a domain (a shared concern), a community (group members), and a practice (group activities), as noted by Wenger-Trayner and Wenger-Trayner (2015). In this study, the elements of a CoP were encompassed as the domain was lesson preparation during WIL, the community included PSTs and the research team, and the practice involved participating in lesson study sessions. The lesson study sessions evolved into a CoP for PSTs, providing emotional and peer support during WIL.

Listening to the various challenges in different contexts and exchanging ideas on potential solutions facilitated PSTs' learning from one another. The benefit of the lesson study sessions extended beyond lesson preparation. It contributed to PSTs' emotional well-being by reducing feelings of isolation and anxiety. This is exemplified in the following comments by PST X and PST A:

"When I joined the lesson study group, I heard K explaining her challenge and realised I had the same issues. When I pointed out problems in her approach, I was reflecting on my own struggles, which helped me improve my teaching strategies. When the group met and listened to everybody, it lifted many anxieties just knowing that I was not alone" (PST X).

"There were days when lesson planning felt overwhelming, but knowing that I had colleagues to consult and support me made a big difference" (PST A).

The lesson study sessions were a forum for PSTs to deliberate on stress-inducing factors specific to their contexts. PSTs resonated with the challenges discussed, proposed potential coping mechanisms, and thereby constructed a network of mutual emotional support.

Engaging in lesson planning within a community of peers streamlined the lesson development process for PSTs who reported the following experiences:

"I was struggling with implementing K-W-L in Science, but after discussing it in our group, I saw how it could work" (PST F).

"I was working with the grade 4s, and we planned lessons separately but came together to share our ideas, which was very helpful" (PST A).

"When you are working in a group, someone can help you with the introduction" (PST S).

"I will write everything on my own and ask for suggestions. What do you think I should put as my introduction? What do you think I should change? And the person would help me" (PST W).

PSTs utilised each other as consultative resources, facilitating reflection and modifying their lesson plans. The exchange of ideas

during lesson study sessions seemed to stimulate creative thinking among participants. It appears then that lesson study inherently enhances instructional methodologies through collective input.

PSTs exchanged resources, including teaching media, potentially minimizing preparation time. Resource sharing ensured that repetitions of efforts were minimised.

"We also shared resources, so we did not have to redo everything again" (PST S).

"When making posters or cue cards, we passed them to the next person so they could also use them in their lessons. What is the use of my throwing them away when the next person might need them?" (PST T).

Sharing resources, as described by participants, should be reciprocal, ensuring that all group members benefit from reduced workloads. It was evident that the lesson study sessions provided participants with a form of peer support that helped PSTs share resources and enabled them to serve as a source of emotional support to one another.

VI. CONCLUSION

Lave and Wenger's (1991) situated learning theory underpinned this research undertaking. The results indicate that lesson study enabled PSTs to collaboratively navigate contextual and pedagogical challenges, particularly in diverse and resource-constrained classrooms. They exhibited empathy, adaptability, and critical reflection qualities integral to responsive and socially just teaching. Lesson study provided a platform for lesson planning and instructional adaptation utilising peer collaboration. Shared reflection on pedagogical strategies and their adaptations enabled PSTs to accommodate and support diverse learner needs. Additionally, the collaborative reflections on their workload and anxiety are often associated with WIL. The collaborative process enhanced pedagogical innovation and fostered the development of practical competencies responsive to unpredictable instructional contexts.

A key outcome was the emergence of a community of practice (CoP), which provided a secure and supportive space for acknowledging challenges encountered, exchanging ideas and resources, and co-constructing knowledge. Within this CoP, PSTs were encouraged to develop inclusive teaching practices by sharing modified strategies that addressed learner diversity and promoted learner participation. Situated learning theory underscores the significance of such engagement, as knowledge, skills, and appropriate attitudes develop when PSTs learn in authentic contexts. Lesson study, therefore, may be reconceptualised as more than a pedagogical tool: it positions PSTs as teacher-researchers within CoPs, advancing professional and personal learning and growth during initial teacher education.

It is recommended that teacher education programmes embed lesson study into WIL modules as a structured support strategy. PSTs are afforded opportunities for collaborative inquiry, reflective practice, and sustained professional development when lesson study is integrated into the WIL programme. Importantly, the findings also highlight the psychological aspects of teacher preparation and mental well-being, demonstrating how collaborative learning frameworks, such as a CoP for lesson study, can mitigate anxiety, foster resilience, and support the learning and development of future educators.

VII. DATA AVAILABILITY STATEMENT

Participants provided informed consent and signed a form to participate in the study. One condition was that the data, which was gathered from the transcribed focus group interviews, would be accessible to the researchers and any translators if translation was required. The data is therefore not publicly available. The data will, however, be securely stored by the researchers and destroyed (both hard and soft copies) after 5 years (in 2028), as indicated in the ethical clearance application submitted.

VIII. FUNDING

The Multi-Disciplinary/Inter-Transdisciplinary Seed Funding Grant (grant number: MIT16YR2024) was awarded to Tracey Herman as the grant holder for this research project. The funding was awarded by the Sol Plaatje University, where the research project was carried out.

IX. ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the PSTs who enthusiastically participated in this project. We learnt a great deal from their insights. Thank you, too, to Sol Plaatje University for the research funding granted.

X. AI USAGE DECLARATION

The free version of ChatGPT was used to obtain links to relevant sources, some of which were subsequently used, cited, and referenced in this article. ChatGPT was also used to align this article and reference list with the author guidelines for this specific journal, to verify that in-text citations were included in the reference list, and to alphabetise the reference list. We utilised the AI tools Writefull and ChatGPT (free version) to revise this article.

XI. CONFLICT OF INTEREST

There are no conflicts of interest in this article.

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