Lesson Study as a Professional Development Practice: Perspectives of Myanmar Teacher Educators

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Lesson study (LS) is a professional development practice in which teachers collaborate to develop a lesson plan, teach and observe the lesson to collect data on student learning, and use their observations to refine their lesson. LS was introduced into education and teacher education in Myanmar through two international projects, but there has been barely any follow-up research exploring whether and how LS is practiced as a regular professional development activity since the international projects terminated in Myanmar. The present study aims to fill this gap by exploring Myanmar teachers' and teacher educators' understanding of lesson study, their LS practices, the benefits of LS they have identified, and the challenges they have experienced in establishing LS as a long-term, sustainable professional development practice. Mixed methodology was used in the research that forms the basis of this study, with an online questionnaire survey for the quantitative study and a semi-structured interview for the qualitative study. The results of the semi-structured interviews complement the results of the questionnaire and provide a deeper explanation along the following four themes: knowledge and practice of the method, the perceived benefits of the method and the challenges of its implementation. The quantitative research results show that 47% of the participants, i.e. all participating teacher educators, were aware of the method, while 53% of the participants, i.e. all participating teachers from public education, had no knowledge of LS. Therefore, the focus of the study had to be limited to teacher educators' understandings, perceptions, practices and experiences of LS. Their understandings of LS slightly vary, while their perceptions of the method are overwhelmingly positive; nevertheless, since the completion of the international projects, the use of lesson study has declined in their practice due to a marked decrease in administrative support, and, consequently, in their own commitment to LS. The study can shed light on the factors that determine the success of the introduction and adaptation of a new method that can be called innovative.

Keywords: lesson study (LS), professional development practice, teacher educators

Introduction

Lesson study (LS) is a professional development (PD) practice in which teachers collaborate to develop a lesson plan, teach and observe the lesson to collect data on student learning, and use their observations to refine their lesson. It is a process in which teachers engage to learn more about effective practices that result in improved learning outcomes for students (Stepanek et al., 2007). LS originated in Japan, but it is now in use beyond Japan in such East Asian countries as Singapore, Hong Kong, and China. In the West, it is in use in countries including the US, the UK, Sweden and Canada (Dudley, 2011). It is arguable that LS is a professional development practice with a long history, and it can be adapted to different contexts.

In Myanmar, LS was introduced in a centralized way through international projects (Yin Mar Win, 2020). However, there has been barely any research done to explore how teachers practice LS as a regular PD activity after the LS training projects terminated. This study aimed to fill that research gap, investigating Myanmar teachers' and teacher educators' understandings of LS, their practice of LS and their perceptions regarding the benefits of LS. However, in the course of the research the research focus had to be limited to teacher educators, since it turned out that participating public school teachers had no knowledge of LS.

Literature Review

While the literature on teachers' LS practice is extensive, the research concerning teacher educators' LS practice is limited. We found only Schipper' et al. (2022) study on teacher educators' LS practice. The findings of Schipper' et al. (2022) show that LS can support teacher educators in obtaining knowledge about how to focus the learning of pre-service teachers, and, moreover, teacher educators' participation in LS can reduce their professional isolation. Therefore, in lack of substantial literature on teacher educators' LS practice, to embark on this study we reviewed the available professional literature on teachers' LS practice and we are going to discuss the findings of our review under three themes: the concept of LS and teacher practitioners' knowledge of LS; the benefits of LS; and ways and challenges of LS implementation. We included a review of studies on the LS knowledge and understanding of practitioners because LS is a new PD practice outside Japan.

The Concept of LS and Practitioners' Understanding of LS

As it was pointed out in the Introduction, LS is PD activity, which is built on the collaboration of teachers. Ideally, the typical LS model includes the following steps: collaboratively planning the study lesson, implementing the study lesson, discussing the study lesson, revising the lesson plan (optional), teaching the revised version of the lesson (optional) and sharing thoughts about the implementation of the revised version of the lesson (Fernandez & Yoshida, 2004 cited in Saito, 2012).

The nature of LS as a PD practice is different from traditional PD practices inasmuch LS is driven by the participating teacher practitioners themselves, while traditional PD practices are driven by outside experts. In LS practice, interaction occurs among practitioner teachers, while in traditional professional development practices communication flows from trainer(s) to teachers. Takahashi and Mc-Dougal (2016) included the role of knowledgeable others/ facilitators in the features of effective LS. A knowledgeable other is usually not part of the LS group and is a subject expert with deep expertise in teaching and much LS experience. In LS, the role of knowledgeable others is important for effective and sustainable LS implementation (Chokski & Fernandez, 2004; Lim et al., 2018), but they play a supportive role and are also called LS facilitators (Hourigan & Leavy, 2021). Based on the above features of LS, it is a legitimate claim that LS is a type of decentralized PD practice, whereas other practices are more centralized (Liptak, 2002 as cited in Lewis, 2002).

There are different LS models described in the literature, and studies show there are differences in how teachers understand the LS method. For example, the Dutch LS model consists of six phases: (1) pick a research theme, (2) plan the research lesson, (3) teach or observe the research lesson, (4) discuss the research lesson (5) revise, re-teach and discuss the research lesson and (6) reflect on the lesson study experience. Still, in Wolthuis et al.'s (2020) study, Dutch teachers understood LS as mere lesson planning, and, therefore, focused specifically on the lesson planning phase. Consequently, they performed an incomplete LS cycle and were not sure about the usefulness of LS. Yet another example of practitioners' problems is explored in the study of Marsigit et al. (2019), which highlighted that although Indonesian teachers participating in their LS research project had a sufficient understanding of the concept of LS, they lacked the necessary skills to apply their knowledge in practice.

The benefits of LS

The benefits of LS are wide-ranging. Chen & Zhang (2019) claim that LS could impact positively on teachers' subject matter knowledge, the quality of instruction, teachers' ability to observe students, the quality of lesson plans, the operation of collegial networks, the connection of daily practice to long-term goals, and practitioners' motivation and their sense of efficacy. Two literature reviews, Lewis' et al. (2019) and Seleznyov (2019), provide a comprehensive insight into the benefits of different LS practices. Lewis et al. (2019) claim that LS has a positive impact on student learning, teacher knowledge, teacher beliefs, routines and norms of professional learning and instructional tools and routines. Concerning the overall outcomes of LS, Seleznyov (2019) reviewed studies from different contexts and listed five outcomes of LS implementation. They are the following: (1) positive changes in teachers' attitudes, (2) teachers' increased professional learning, (3) the organization's adoption of a new professional development model, (4) teachers' acquisition of new knowledge and skills, and (5) pupils' improved learning outcomes. Some studies have also pointed out that LS can improve teachers' professional attitudes as well as help teachers to reflect on and modify their beliefs (Samaranayake, et al., 2018; Khokhotva & Albizuri, 2020).

In Conceição, Baptista & da Ponte's (2018) study, the results highlight that pre-service science teachers improved their skills in identifying the characteristics of inquiry tasks and in embedding the inquiry tasks in lesson planning as a result of their practicing LS. Moreover, classroom communication skills acquired during their LS activities encouraged student participation. Mayrhofer (2018) argues that LS enhances teachers' reflection on their practice and their collaboration and affects teachers' decision-making and actions, which are strongly rooted in their unconscious beliefs. Lewanowski-Breen, Shuilleabhain and Meehan (2020) suggest that LS has the potential to create sustainable professional learning communities among teachers. Aas (2020) provides significant evidence that LS assists teachers to get to know their students better. Calleja and Formosa's (2020) study shows that the cognitive conflicts that arise during lesson study discussions play an important role in teacher change, since LS discussions support teachers' communication and reflection on those cognitive conflicts and hence helps teachers to resolve them.

LS implementation and its challenges in different contexts

Interestingly, the review of the literature revealed that the ways of LS introduction vary from context to context. In the UK, LS was introduced by a local educational researcher, Dudley (2012), through the Teaching and Learning Research Programme. The LS adoption process was initiated though a small-scale pilot of 14 schools, but due to the efficacy of LS, it has been used increasingly since then, especially within the primary school sector in England (Wood et al., 2017). In many developing countries LS has been introduced with the assistance of the Japan International Cooperation Agency (JICA) (JICA, 2005, cited in Saito, 2012), in cooperation with the government agencies of the countries. This suggests, that in a more decentralized educational system like that of the UK, bottom-up LS implementation may be successfully used, while top-down LS implementation is mostly used in more centralized educational contexts.

Fernandez (2002) describes the challenges which American teachers experienced when implementing LS. The challenges extended well beyond the expected ones, such as time allocation and interest in lesson study, and included problems like feeling uncomfortable with making teaching public or difficulty finding the common curricular ground for collaborative lesson planning. Japanese teachers view and practice LS as a form of classroom research. However, it was revealed that American teachers lacked the skills needed to adopt lesson study from a research stance.

Subadi et al. (2013) report that when LS is used as a professional development model, four issues arise, namely (1) teachers' capacity, (2) external problems, including stakeholders, educational settings, curricula and facilities, (3) teachers' commitment, (4) teachers' concerns. From among the four issues, three are related to teacher practitioners, while only one to external factors, e.g. to administrative support.

Other factors that hinder sustainable LS implementation are low integration and lack of linkage. Low integration refers to the lack or scarcity of shared values, norms and expectations and a low level of trust among LS practitioners; lack of linkage refers to poor connection between LS teams and administrators and LS teams and other colleagues. Even when teachers have a complete and thorough understanding of LS, its practice may not be continued because of the lack of integration and linkage (Druken, 2015). Moreover, school leadership plays an important role in the sustained practicing of LS: school leaders should manage the schedule for LS, be knowledgeable about LS and assign a lesson

study facilitator/ coordinator (Van Den Boom-Muilenburg et al., 2022) for the processes to run smoothly.

Study Context

Myanmar committed itself to shifting its education from the traditional teacher-centered approaches to child-centered approaches (CCA) starting from the 2000s onwards. Several reforms have been initiated to promote CCA since then. Although many reform efforts have been made, the current Myanmar education system still suffers from the deeply rooted traditional teacher-centered approach to education, which emphasizes knowledge accumulation, memorization, and reproduction in both schools and teaching training institutions (Borg et al., 2018).

As far teacher education is concerned, currently three types of teacher training institutions are responsible for training school teachers of basic education. These are Education Colleges (ECs), which train teachers for primary and middle schools, Universities of Education (UoEs), which train teachers for secondary schools, and the University for the Development of the National Races (UDNR), which train teachers for ethnic minority groups. The teacher training methodology of Myanmar teacher education is teacher centered, focusing on lecturing and exams. Consequently, teacher trainees are not able to apply the child-centered methods when they become teachers since they have not been trained in these child-centered approaches (Lall, 2020).

LS has been introduced to Myanmar through two international projects: Strengthening the Child-Centered Approach (SCCA) project, conducted by the Japan International Cooperation Agency (JICA), and the English for Education College Trainers (EfECT) project run by the British Council. Both projects aimed to promote the child-centered approaches in Myanmar's educational system.

The first project was the SCCA project of JICA in 2004-2005. The main aim of the project was to support the shift in education from the traditional teacher-centered approach to a child-centered approach, focusing on improving learner's creativity and critical thinking. The project introduced the new teaching and learning method, the Child-centered Approach (CCA) by using LS as a professional development practice (Yin Mar Win, 2020).

The SCCA project was implemented in a four-layered cascade and in a top-down fashion. The staff of the Department of Educational Planning and Training (DEPT) was the top layer; they received CCA training from the Japanese ex-

perts of JICA and became the CCA trainers of EC teacher educators. The EC teacher educators passed CCA training down to the trainers of the targeted townships, who finally passed the CCA training down to the primary teachers of the targeted townships through cluster trainings in the designated townships of the project (JICA, n.d.).

The JICA project (International Development Center of Japan, 2002) implemented LS in the following steps:

Preparation

Step 1: Organizing the official working groups

Step 2: Selecting the topics

Step 3: Analyzing the concerned environment (students, classroom, and materials, etc.)

Step 4: Analyzing the contents of the topics

Step 5: Collecting information for the pilot lessons

Step 6: Creating the pilot lesson plans

Step 7: Preparing teaching/learning materials

Step 8: Arranging the class schedule for the pilot lessons

Implementation

Step 9: Practicing teaching the pilot lessons

Step 10: Implementing the pilot lessons in class

Step 11: Observing and monitoring the pilot lessons

Step 12: Discussing the pilot lessons and exchanging opinions

Evaluation

Step 13: Evaluating the pilot lessons

Step 14: Revising the pilot lesson plans

The JICA project intended to support the primary education sector of Myanmar. The JICA project intended to support the primary education sector of Myanmar. The main aim of the project was to introduce the new teaching approach, CCA, in the classrooms. LS was just a professional development activity to support teachers in using the new, child-centered methods. Still, the trainees were confused about the terms "LS" and "CCA" (Yin Mar Win, 2020). The JICA project was not successful enough due to several factors. The first prominent factor was the mismatch between the outdated curriculum and exam system and the "CCA" teaching method. Other contextual factors included high teacher-student-ratios, lack of space, lack of teaching aids and lack of time. Yet another important factor was the

cultural factor. The western way of teaching, CCA, deviates from the traditional Myanmar culture, in which students are obedient and do not question what teachers or parents or other elders say (Lall, 2020). The British Council (2014b, p. 67, cited by Shepherd, 2019) also established that after the JICA project had been completed, teachers switched back to their traditional methods instead of using the new practices because the new methods were not successfully institutionalized.

The second important reform effort to shift educational practices to child-centered ones, the EfECT project, was initiated as part of a whole sector reform called the National Education Strategic Plan (NESP) (2016-21). NESP was launched after undertaking a nationwide Comprehensive Education Sector Review (CESR, 2012-2014). The goal of NESP (2016-2021) was to achieve "*Improved teaching and learning, vocational education and training, research and innovation leading to measurable improvements in student achievement in all schools and educational institutions*" (Ministry of Education, 2016, pp. 66). To reach this goal, ECs upgraded their two-year teacher training 'Diploma in Teacher Education' (DTEd) program to a new 4-year teacher education program, and, accordingly, a new curriculum for the 4-year teacher education program was developed, in alignment with the new basic education curriculum (Lall, 2020). The aim of the EfECT project was to update the teaching methodology of Education Colleges and, in effect, that of all teacher training institutions so that they can educate teacher in line with NESP goals.

The EfECT project was implemented from 2014 to 2016. This project aimed to improve the English language proficiency[4] and the teaching practices of teacher educators (TEs). The target population of the project were 24 teacher training institution, 20 ECs, 2 UoEs, UDNR and the National Center for English Language (British Council, 2016). In this project, considering the failure of CCA in schools, a teaching methodology course which focused on learner-centered approaches was developed (Clifford, 2016, cited in Lall, 2020) and LS was used as a training tool, helping TEs to master the child-centered methods. The LS cycle (Shepherd, 2019) followed six steps, namely

1. identifying a research theme (based on a departmental challenge or goal);
2. researching the lesson to be given;
3. planning the lesson;

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[4] A baseline measure of the EfECT project tested the English proficiency of all TEs. It found out that 88% of TEs have low entry levels of English. Therefore, it was decided to begin the project with a focus on the English language proficiency of TEs (Borg et al., 2018).

4. teaching/observing the lesson (observers collect data on student behavior/reactions);
5. debriefing and reflecting on the lesson; and
6. re-planning the lesson based on the information gathered.

The trainees of the EfECT project were only TEs from ECs, UoEs and UDNR. Although TEs were the primary beneficiaries of the project, teacher trainees were the indirect beneficiaries, since they could experience student centered training sessions first hand.

It is reasonable to assume that LS is being widely practiced in Myanmar teacher education today, even though the EfECT project terminated in 2016, for two reasons. Firstly, TEs were the target audience of the project, and, secondly, in the new curriculum of the 4-year teacher education programs of ECs, phased in from 2019 onwards, LS is integrated into the teaching practicum of student teachers (Yin Mar Win, 2020). The practicum in the new curriculum takes nine weeks and the student teachers practice in schools, following the LS steps: choosing a classroom action research theme, designing a lesson plan, being observed while teaching the lesson by peers and mentors using observation tools and checklists and receiving constructive feedback (Lall, 2020). The assumption that LS should have taken roots in Myanmar by this time inspired our research project.

Method

Originally, this study aimed to explore how Myanmar teachers and teacher educators are practicing LS as a regular professional development activity. However, the collected data in the first, quantitative phase of our research project revealed that participating school teachers had no knowledge of LS. Accordingly, we had to modify the research questions so that they matched the data that could be collected, and only focused on the teacher educator participants. Therefore, this study addresses the following research questions:

1. How do teacher educators understand what LS is?
2. How is LS implemented in ECs and UoEs and what challenges are posed?
3. How do teacher educators perceive the benefits of LS as a professional development activity?

Research Method

In this study, the explanatory sequential research design (Cohen et al., 2007) was used: the quantitative data gives a general picture of the research problem, namely how Myanmar teacher educators understand, practice and perceive LS as their PD activity, and the qualitative data is required to refine, extend and explain this general picture by exploring the research problem in an in-depth way. With regard to the research method, a mixed-method research design was applied: the study started with the quantitative data collection (a questionnaire survey), followed by the qualitative data collection (semi-structured interviews with volunteer participants).

Instruments

For the quantitative study, a questionnaire was designed to explore TEs' perceptions of LS as a PD practice and their own practice of LS. The questionnaire included two parts, namely the demographic background and the main body of the questionnaire items. In the demographic background part, the survey begins with an informed consent form, followed by asking about the participants' age (i.e., they needed to be at least 18 years old to take part in the questionnaire survey). The following section asks for further demographic information about the participants, such as gender, age, years of teaching experiences and working organization.

The main body of the questionnaire starts with a Yes/ No question, namely: "Do you know what LS is?" On the Qualtrics survey platform, the survey ended if the participant chose the "No" option in response to this question. This means that only the participants who had knowledge of LS could proceed to the survey. There are altogether 18 items in the questionnaire and a 5-point Likert scale is used, which ranges from strongly agree (SA) to strongly disagree (SD). The questionnaire items were adapted from the survey study of Lim et al. (2011). The items of the questionnaire can be seen in Appendix 1. Questions 1-14 focus on the perceived benefits of LS, Q15 on LS as a regular practice, Q16-17 on administrative support and Q18 on teacher commitment.

For the qualitative study, semi-structured interviews were conducted. The interview questions were developed based on the research questions and the quantitative data. The thematic parts of the interview protocol were developed in order to find out how the participants understand LS, how they practice LS and how they perceive its benefits. The interview protocol consisted of five interview ques-

tions; (1) How do you understand what LS is? Please explain in detail, (2) What kind LS training did you receive? How? (3) Are you practicing LS as a PD routine? If yes, how? (4) What benefits do you think LS can offer? And (5) What factors contributed in your institution to the successful or unsuccessful implementation of LS in your opinion?

The interview questions and the questionnaire items were written up in English, and then translated into the Myanmar language firstly by the first researcher. Then a former colleague of the first researcher, who is an educational researcher from Myanmar, checked both versions of the interview questions and the questionnaire items and validated them.

Data Collection and Analysis

For the quantitative study, the online survey was conducted by using the Qualtrics platform. The e-mails with the survey link were sent to the participants. Initially, we distributed the survey link to UoE teacher educators, EC teacher educators and school teachers through informal Telegram (the popular social platform in Myanmar) groups of each institution. As it was mentioned above, on the Qualtrics survey platform the survey ended if the participant chose the "No" option in response to the question "Do you know what LS is?". Initially, we expected that school teachers would know about LS because of the first project conducted by JICA, which targeted primary school teachers. However, while cleaning the data, we omitted the responses of school teachers because all of them answered that they did not know what LS is. This suggests that the cascade model was not efficient, it failed to reach classroom practitioners. A total of 95 participants started to fill out the survey but we could use only the responses of the 45 teacher educators from UoEs and ECs for data analysis as they confirmed they had knowledge about LS.

The quantitative data was analyzed by using SPSS (Statistical Package for the Social Sciences) version 25. The quantitative data analysis was limited to descriptive statistics because the general summary of the descriptive analysis was sufficient to answer the research questions. The frequency of the response to each item was calculated and the percentages of the responses are presented as the combined percentages of the strongly agree (SA) and agree (A) responses and combined percentages of the strongly disagree (SD) and disagree (D) responses in the percentage distribution table.

After collecting and analyzing the quantitative data, semi-structured interviews were conducted. The selected participants for the qualitative study were interviewed by using the online platforms Zoom and Microsoft Teams. The transcriptions of the interviews were in Myanmar language and only quotations were translated into English language for the purpose of this paper.

The qualitative data were manually analyzed by using inductive content analysis (Kyngäs et al., 2020). Before starting the data analysis, the researchers read the data several times until they familiarized themselves with the data sufficiently. After that, the data analysis started with open coding, followed by the emergence of sub-concepts and concepts. Finally, the emerging main concepts fell under the following themes: LS Knowledge, LS experiences, LS benefits, and challenges of LS implementation (See Figure 3).

Participants

Participants of the Quantitative Study

In this study, only the data from the 45 teacher educators who knew LS were collected and used. Table 1 presents the demographic data of these participants. The descriptive statistics revealed that the majority of the respondents were aged between 31 to 40 (53.33%). Regarding gender, the number of male and female was not equal (Male, 11.11 % and Female, 88.88%). The majority of the teaching profession in Myanmar are female, so the ratio of males and females reflects reality. In terms of years of teaching experience, most of the teacher educators had 6-10 years (33.33% of the sample) or 11-20 years of teaching experience (31.11% of the sample). The participants were 21 teacher educators from UoEs and 24 teacher educators from ECs.

(N = 45) Distribution		Number of Teacher
Gender	Male	5 (11.11%)
	Female	40 (88.88%)
Age	26-30 years	6 (13.33%)
	31-40 years	24 (53.33%)
	41-50 years	8 (17.77%)
	51-60 years	7 (15.55%)
Years of Teaching Experience	0-2 years	3 (6.66)
	3-5 years	4 (8.88%)
	6-10 years	15 (33.33%)
	11-20 years	14 (31.11%)
	20-30 years	5 (11.11%)
	More than 30 years	4 (8.88%)
Type of Teacher Educator	Teacher of University of Education	21 (46.66%)
	Teacher of Education Colleges	24 (53.33%)

Table 1 Participants of the Quantitative Study

Participants of the Qualitative Study

At the end of the quantitative survey, the participants were asked if they would like to participate voluntarily in the follow-up qualitative study and if they agreed to participate, they were requested to give the contact information (phone number or email address). The selection of the participants for the semi-structured interview was done by the first researcher. Five participants volunteered to participate in the semi-structured interview. All the volunteers were teacher educators from ECs. The interviews were conducted in the Myanmar language.

Participants (Ps)	Working Organization	Faculty	Position	Qualification	Total Teaching Service (Years)	Years of teaching experience as school teacher
P 1	Mandalay EC	Educational Studies	Assistant Lecturer	M.Ed	13	4
P 2	Meikhtila EC	Methodology	Lecturer	M.Ed	15	6
P 3	Sagaing EC	Educational Psychology	Assistant Lecturer	M.Ed	11	3
P 4	Magway EC	Methodology	Assistant Lecturer	M.Ed	10	5
P 5	Lashio EC	Methodology	Assistant Lecturer	M.Ed	9	4

Table 2 Participants of the Qualitative Study

Findings

Quantitative Findings

LS Knowledge of Myanmar Teachers
As it has already been mentioned 47% of the participants selected the "Yes" option to the question "Do you know what LS is?" while 53% of the sample selected "No". The results revealed that all the participating teacher educators have knowledge of LS, while none of the participating schoolteachers do.

LS Knowledge of Myanmar Teachers
Figure 1 shows what percentages of participating TEs responded to the different statements of the survey either on the strongly agree/agree side (red bars), or on the strongly disagree/disagree side (blue bars) or were undecided (green bars). The participants agreed unanimously and strongly that they benefited from practicing LS in terms of discussing student teachers' learning, sharing teaching pedagogies with their colleagues, learning from each other and having a chance to visit each other's classroom. However, they do not fully agree that they were able to practice LS regularly and that they received adequate administrative support to do so.
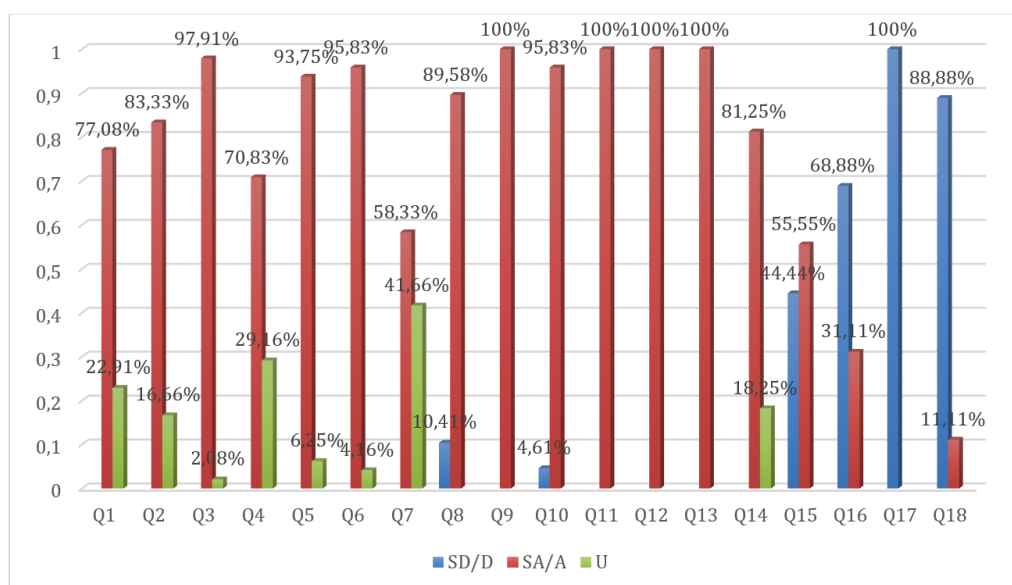

Figure 1 Teacher Educators' perspectives on LS practice. Note. SD/D = Strongly Disagree/Disagree, SA/A = Strongly Agree/Agree, U = Undecided
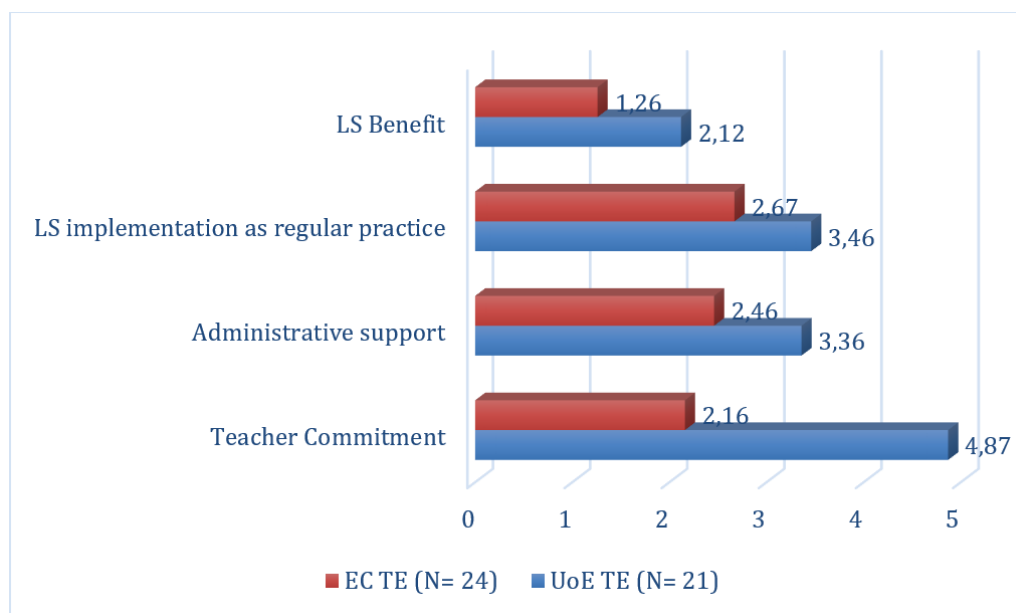
Figure 2 Comparison of the perspectives of UoE TEs and EC TEs on the LS practice. Note: Mean values on a 1–5 scale where 1 corresponds to "strongly agree" and 5 "strongly disagree"

Out of two types of teacher training institutions, ECs received both JICA training and EfECT training and ECs started practicing LS earlier than UoEs. This is why the two groups' LS practices were compared in light of the data collected. Figure 2 shows the results of the comparison of two groups' perspectives. Questions 1-14 focuses on the perceived benefits of LS, Q15 on LS as a regular practice, Q16-17 on administrative support and Q18 on teacher commitment. When asked about their perspectives on LS benefits, UoE TEs are less convinced of the benefits of LS than EC TEs, and, accordingly, they practice it less regularly. The responses also show that EC TEs received more administrative support than UoE TEs did. The data shows that receiving more training, stronger administrative support and an extended period of time to practice LS makes it a more accepted and positively regarded practice among TEs. The vast gap in how the two groups are committed to LS is most striking and begs further research.

Qualitative Findings

The qualitative findings provided detailed insights into the main themes, all depicted in Figure 3, i.e. participants' LS knowledge, their LS experiences, LS benefits and challenges of LS implementation.
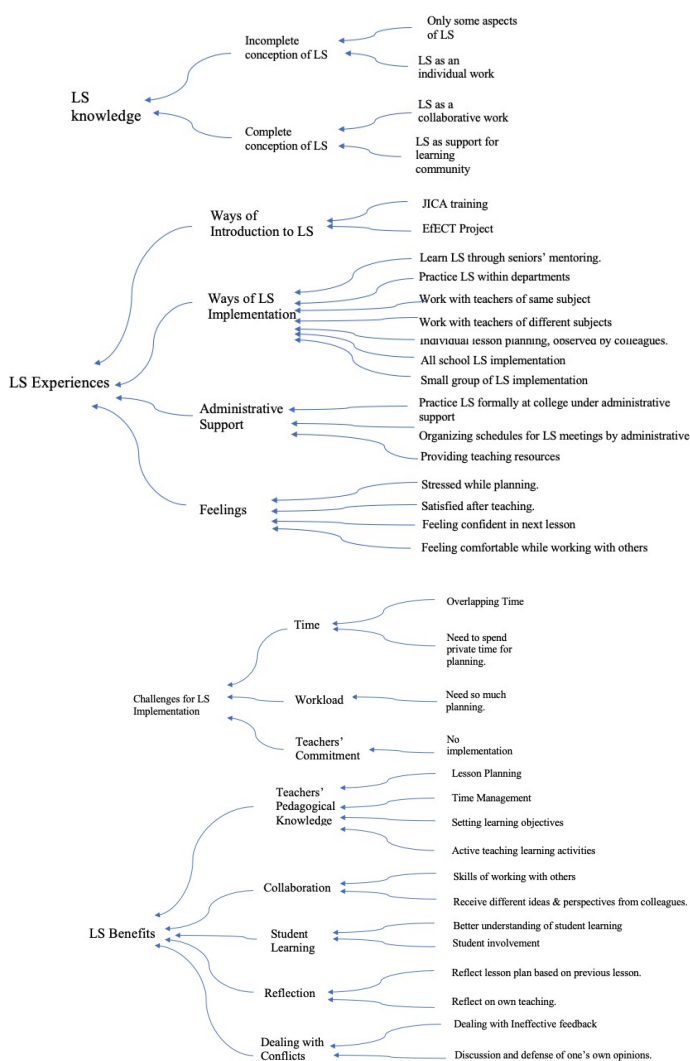
Figure 3 Thematic map of sub-concepts, concepts and main themes emerging from the interviews

Teacher Educators' Understanding of LS
Related to the LS understanding of teacher educators, the data reveals that teacher educators have varied understandings of LS. Some participants described only some aspects of LS, i.e. pre-learning for the lesson (i.e. research for the lesson by pre-reading) lesson planning, reviewing and reflection. One of the participants mentioned that lesson study is essential for every teacher and lesson planning helps teachers improve their teaching. Another explained that their understand-

ing of LS stems from their implementation experience. In their Education College, they practice LS in such a way that one teacher plans a lesson individually, then others review the plan and give suggestions how it could be improved. After that, he/she teaches the lesson, and others observe the lesson. Then, the observers give feedback and he/ she reflects on the lesson. Finally, the teachers discuss how to improve the lesson plan collaboratively. Some of the participants understand LS as individual work, following the steps of the LS process, while some understand LS to be collaborative work.

Some of the participants believed that LS can enhance teachers' learning communities. It can be seen in the following answer: *"LS is one of the CPD activities of teachers, which encourages them to build a learning society."* (Participant 5).

Some participants gave a detailed explanation of LS:

"In my opinion, Lesson Study is the most important activity in teaching. We need to discuss the lesson plan and how to teach it, which activity we should use, what the time limit should be and how we should assess learning. And then, we observe others teaching it and then we have a reflective session and discuss again how to improve the plan and teaching the next time. It is important and essential for the teaching-learning process." (Participant 1).

"Lesson Study is a professional development activity that involves teachers working in small groups to plan lessons that address a shared learning goal for pupils. They then deliver these lessons while their peers observe and then refine the lesson plans based on feedback and review." (Participant 4).

LS Implementation

Myanmar teacher educators had LS experiences from two international projects, the SCCA and the EfECT projects. Right after the SCCA project, teacher educators practiced LS as a whole college project under the leadership of college administration. Only some of the teacher educators received direct training from the SCCA project. They shared their LS experience with their colleagues who did not receive any training and also initiated LS implementation at their colleges. This form of implementation is reflected in the following answer:

"I haven't received LS training directly, but I learned it from my seniors who received it. They initiated LS practice formally under the supervision of the heads of the departments. In this way, I have LS experiences" (Participant 3).

The data also reveals that each Education College has a different style of grouping the participating members into LS teams. In some colleges, the LS teams consist of the teachers of the same subject. In some, multidisciplinary LS teams were set up. Related to that, one participant commented that they implemented LS with the colleagues from the same department. The other participants said that their LS teams were multidisciplinary

As far as administrative support is concerned, when teacher educators were implementing LS during the international projects, the administrators arranged time and space for LS meetings and classroom observations. Moreover, they provided the teaching aids and other necessary documents.

"When we practiced LS, we got some administrative support. The administrators planned schedules and spaces for LS meetings and classroom observation." (Participants 4).

"The heads of the departments planned LS implementation, e.g., what time we have meeting, space arrangement for the meeting, time for classroom observation. Moreover, they also provided teaching aids and other necessary things." (Participant 5).

But later on, the support of the administrators started to decrease. Along with the decrease in the momentum of administrative support, the momentum of LS implementation also decreased. In some ECs, the implementation of LS *stopped.*

"Right after the projects we implemented LS, as we still had administrative support. But later we were not able to practice LS as a routine because the administrative support stopped." (Participant 2).

Benefits of LS

Participating Myanmar teacher educators claimed that LS improved their pedagogical knowledge rather than their subject knowledge. According to their perceptions, the most prominent benefit of LS is that it improved lesson planning:

"Back then, I couldn't plan lessons very well because I am from the academic department[5] and don't have any pedagogical background. Through having LS experiences, I got to understand how to plan lessons systematically, how to consider what kinds of learning objectives to set and how to achieve these objectives" (Participant 1).

*"LS has changed my lesson planning procedure. When I plan a lesson, I write down what I would do, I mean, even the teaching activities, for every single

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[5] There are generally three types of teacher educators in Myanmar, namely academic teacher educators, methodology teacher educators and co-curriculum teacher educators. Out of the three, the teachers of academic subjects do not need to have prior pedagogical training and school teaching practice. (Borg et al., 2018).

minute. And when I teach, I try to follow this plan as closely as I can. As a result, I have improved not only at lesson planning but also at time management." (Participant 4).

Moreover, the participants believed that LS can help them to improve their teaching skills and their understanding of student learning and student involvement. It can be seen in the following two excerpts:

"I think that I am able to create some teaching and learning activities which enhance student involvement because of LS." (Participant 5).

"In my opinion, I get a better understanding of student learning because I observe student learning throughout the teaching period. It's also the benefit of LS." (Participant 1).

Two participants viewed their improved collaboration and reflective skills as benefits of LS implementation, as mentioned in the excerpts below:

"Because in the LS process we plan lessons together, observe each other and discuss how the lesson went after teaching, I think that I am getting to understand how to work collaboratively with my colleagues and we can learn from each other." (Participant 3).

"When we practice LS, we reflect on how teaching went in the previous lesson and try to improve on the weaknesses in the next lesson." (Participant 4).

Moreover, the TEs improved their ability to deal with the conflicts within the LS group, as it is revealed in the following answers:

"Because of the nature of LS, we need to work collaboratively with colleagues. Sometimes, we have some disagreements. I have learned how to harmonize my ideas with their ideas positively and productively throughout the LS process." (Participant 3).

"In the discussion/reflection stage of the LS cycle, when we give feedback and comment on each other's teaching, I have learned how to give feedback positively." (Participant 1).

With regard to the feelings of LS practitioners, the findings are interesting. Their feelings shift depending on the steps of the LS cycle. They feel stressed while planning the lesson and teaching it, but after teaching, they feel satisfied and confident about the next lesson. Moreover, they feel more comfortable while working with close colleagues than while working with colleagues from different departments. This can be seen in the following statements provided by the interviewees:

"I can learn a lot through LS but I feel super stressed when I plan for teaching and when I'm teaching because my colleagues might judge my teaching." (Participant 4).

"Although I felt stressed during planning and teaching, I felt confident and ready for next lesson." (Participant 2).

"In my experience, I feel more comfortable while working with my close colleagues than I do when working with colleagues from other departments." (Participant 1).

Challenges of LS Implementation

The interview data show that the momentum of LS implementation decreased some years after the projects had terminated. The implementation of LS posed several challenges for TEs at ECs. Time management issues, TEs' heavy workload, the lack of TEs' commitment to LS and change in administrative policy all proved to be serious hindrances, as the following responses show:

"Right after finishing the project, we practiced LS widely and productively. The administrative staff organized the schedules for LS and also provided some of the required materials for LS. But, after some time, we did not practice LS because the administration stopped organizing the LS schedules." (Participant 5).

"Right after the SCCA project, I was excited to share LS experiences and initiate LS practice in our college. But, after some time, we experienced many challenges, especially lack of administrative support. Consequently, I became less enthusiastic about LS." (Participant 1).

"As you know, LS demands so much planning. We often had to spend even our own, private time besides the working time on planning. Consequently, we were getting tired." (Participant 2).

"In my opinion, it depends on the participants' commitment. When implementing LS was official, administrative policy, we practiced LS according to the guidelines of the administrators. Informally, we could not practice it, because we became less committed to LS implementation without the administrative policy." (Participant 3).

Discussion

In this study, we intended to investigate Myanmar teachers' and teacher educators' LS practice as a regular PD activity, but one of our main findings was that teachers do not have any knowledge of LS, so the main body of evidence was collected on teacher educators LS practices. We used an explanatory sequential research design and a mixed research method in order that the quantitative data could yield a gen-

eral view of Myanmar teacher educators' LS practices and the qualitative data could provide an in-depth exploration of teacher educators' LS practices.

In response to RQ 1 "How do Myanmar teachers understand what LS is?", the quantitative data gave the general information that TEs, but only them, are familiar with the term "LS". The qualitative data explained in detail how they understand what LS is. We found that while some of the teacher educators understand the whole LS process, others have limited knowledge and experiences of LS. Some view LS as an individual professional development practice instead of a collaborative one. One of the teacher educators views LS as a tool to enhance teachers' learning community.

Related to RQ 2 "How is LS implemented in ECs and UoEs and what challenges are posed?" the quantitative data revealed that some teacher educators do not practice LS regularly while some do. The LS study teams stopped their operation in some institutions altogether after. the international projects had terminated. Moreover, the data shows that administrative support for LS has decreased since the projects terminated and, consequently, so has teacher educators' commitment to LS. TEs named four factors, namely their limited time, their heavy workload, their lack of commitment to implementing LS, and the decline in administrative support that prevente them from practicing LS as a regular professional development activity.

Related to RQ 3 "How do Myanmar teachers perceive LS as professional development practice?", it was found that Myanmar teacher educators think that LS has benefits as a regular professional development practice. Based on the qualitative data, teacher educators perceive that LS can offer them some benefits such as improving their pedagogical knowledge, opportunities for collaboration, enhancement of student learning, developing their reflective skills and helping them to resolve conflicts.

The findings of this study confirm the findings of the study of Yin Mar Win (2022), which found that among Myanmar teachers, some teacher educators have a thorough knowledge of LS, whereas others have only incomplete knowledge of this concept. This data also agrees with Seleznyov's (2018) literature review, which concluded that teachers have overall positive attitudes towards the benefits of LS as a professional development practice. Moreover, the findings coincide with those of the study of Samaranayake et al., (2018), which claims that LS experiences facilitate sustainable change in teachers' collaboration. Moreover, Aas

(2020) points out that LS improves teachers' understanding of student learning, which is in agreement with the findings of this study. Calleja and Formosa's (2020) study shows that LS can improve teacher's communication skills, which this study also confirms. The data also confirms the claims of the studies of Calleja and Formosa (2020) and Mayrhofer (2018), which show that LS can enhance teacher collaborative skills and reflective skills.

However, in contrast with Lewanowski-Breen, Shuilleabhain and Meehan (2020) study, which suggested that LS can help to establish sustainable professional learning communities and enhance their activities, this study found that the momentum of LS implementation decreased some years after the international projects had terminated due to factors such as time management issues, TEs' heavy workload, TEs' willingness and change in administrative policy.

Grimsæth and Hallås (2015) pointed out that when LS, a global pedagogical idea, is brought into a local context, it is required that the global LS practice be adapted to the local practices. This study finds that when LS was brought into the Myanmar context, the way of its introduction was adapted to the local context: it was introduced in a strictly top-down fashion, befitting the centralized education system of Myanmar. The central government introduced LS through the international projects (the top-down approach) instead of it being introduced through bottom-up initiatives.

This study found that the factors needed for sustainable LS implementation in Myanmar are scheduling time for it, increasing LS practitioners' commitment and providing administrative support and policy. This is in agreement with the findings of the studies of Chen & Zhang (2019), Gill et al. (2005, p. 142, as cited in Saito, 2012), and Van Den Boom-Muilenburg et al. (2022), which identify time management for LS practice, voluntary teacher participation and adequate local governmental support as the crucial factors for successful LS implementation.

Conclusion

Myanmar has introduced LS through two international projects, namely the JICA project and EfECT project. This study explored how teacher educators practice LS as a regular professional development activity. The findings show that teacher educators from ECs and UoEs are familiar with the concept of LS and practice it to some extent. However, ways of implementing LS differ in each EC and UoE. Most of the participating teacher educators agreed that LS has benefits for their

professional development. However, LS implementation cannot be fully integrated into the Myanmar education system due to many factors, most importantly inadequate administrative support, TEs' heavy workload and limited time. As regards future studies, it is necessary to investigate the possible methods for enhancing the sustainability of LS implementation. This research offers insights for practitioners and policymakers, highlighting the necessity of both a favorable perception of new methods among practitioners and their commitment to using them in their practice, alongside robust administrative support for the successful integration of these innovations into a new context.

Limitations

We acknowledge several limitations of the study. The most significant limitation was our sampling method. This study was conducted during the Covid-19 pandemic and a dire political situation in Myanmar. Consequently, we had to apply the convenience sampling method and could not reach a wider sample of the participants. Therefore, the representativeness of the sample could not be ensured. Moreover, this study could not explore how school teachers understand and practice LS, because the accessible sample of school teachers was very small, compared with their whole population, and, most importantly, none of them in the sample had any knowledge of LS. Another limitation of this study is that is our data is limited to participants' self-reports. In order to explore the LS practice of the participants in-depth, it would be crucial to use observation.

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A tanórakutatásról mint szakmai fejlődési gyakorlatról: Mianmari tanárképzők perspektívái

A tanórakutatás egy olyan innovatív szakmai fejlődési gyakorlat, amelynek keretében a tanárok együttműködve dolgoznak ki egy óratervet, megtartják és megfigyelik az órát, hogy adatokat gyűjtsenek a diákok tanulásáról, majd megfigyeléseiket felhasználják az óra tökéletesítéséhez. A tanórakutatást nemzetközi projektek segítségével vezették be a mianmari oktatásba és tanárképzésbe. A projektek zárása után azonban alig végeztek olyan kutatásokat, amelyek a tanórakutatást mint rendszeres szakmai fejlődési gyakorlatot vizsgálták volna. Jelen tanulmány célja, hogy pótolja ezt a hiányt, feltárva a mianmari tanárok és tanárképzők tanórakutatásról alkotott felfogását, a tanórakutatás alkalmazásának gyakorlatát, előnyeit és a hosszútávú, fenntartható gyakorlatként történő meggyökereztetésével kapcsolatos kihívásokat. A tanulmány alapját képező kutatásban vegyes módszertant alkalmaztunk, a kvantitatív vizsgálathoz online kérdőíves felmérést végeztünk, majd a kvalitatív vizsgálathoz félig strukturált interjúkat bonyolítottunk le. A félig strukturált interjúk eredményei kiegészítik a kérdőíves vizsgálat eredményeit, és mélyebb magyarázatot adnak az alábbi négy téma mentén: a tanórakutatással kapcsolatos ismeretek, tapasztalatok, a módszer nyújtotta előnyök és a módszer bevezetésének kihívásai. A kvantitatív kutatási eredmények azt mutatják, hogy a résztvevők 47%-a, vagyis az összes részt vevő tanárképző ismeri a módszert, míg a résztvevők 53%-ának, vagyis az összes közoktatásban dolgozó részt vevő pedagógusnak nincs ismerete róla. Ezért a tanulmány fókuszába a tanárképzők tanórakutatással kapcsolatos felfogása, percepciói, gyakorlata és tapasztalatai kerültek. Bár a módszer értelmezésében vannak kisebb eltérések, megítélése alapvetően igen pozitív. Ennek ellenére a nemzetközi projektek befejezése óta a tanórakutatás alkalmazása ritkult a résztvevők gyakorlatában, mert az adminisztratív támogatás erőteljesen csökkent, ami saját elköteleződésük csökkenését vonta maga után. A tanulmány rávilágíthat azokra tényezőkre, amelyek egy új, innovatívnak nevezhető módszer bevezetésének, adaptációjának sikerességét meghatározzák.

Kulcsszavak: *tanórakutatás, szakmai fejlődés, tanárképzők*

Appendix 1

Online Survey Questionnaire

Please provide some basic information about yourself.

1. gender

   ○male   ○female

2. Age

   ○ 20-25 years ○ 26-30 years ○ 31-40 years ○ 41-50 years ○ 51-60 years

3. Total Year of Teaching experience

   ○ 0-2 ○ 3-5 ○ 6-10 ○ 11- 20 ○ 20-30 ○ more than 30

4. Working Organization

   ○ University of Education ○ Education College ○ School

5. Do you know what LS is?

   ○ Yes ○ No

Content

	Item	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	LS was a productive use of my time.					
2	LS raised ideas that will influence my own classroom instruction.					
3	LS made me want to learn more about the subjects I teach.					
4	LS increased my understanding of students' learning processes in the subject.					
5	LS contributed to my own knowledge about teaching the subject.					
6	LS contributed to my own knowledge about teaching the subject.					
7	LS enabled me to examine the curriculum more carefully.					
8	LS increased collegiality amongst colleagues.					
9	LS has made it easier for colleagues to visit each					

	other's classrooms.
10	LS has made me less afraid of opening my lessons to others to observe.
11	LS has increased the frequency with which colleagues meet and discuss teaching pedagogies.
12	LS has increased the frequency with which colleagues share and discuss students' learning.
13	LS offers me the opportunity to learn from colleagues and grow professionally.
14	LS generated useful resources for my own teaching.
15	Teachers practice LS as a PD routine.
16	The administration provides adequate support to teachers for LS implementation.
17	Timetable flexibilities enable teachers to meet regularly.
18	Teachers are committed to LS implementation