Supported by

BRITISH COUNCIL

Research report

Enhancing pre-service English language teachers' professional knowledge, skills and confidence through peer microteaching lesson study (PMLS)

Pam Rogerson-Revell, Julie Norton, Haiyan Xu, Fay Baldry,

Jeff Stanford, Elodie Walsh, Shining Wei, Wasyl Cajkler, Xiaohui Sun,

Liming Ding, Shujuan Meng, Wenting Xie, Xuechen Zhou, Fengrong Li

DOI: https://doi.org/10.57884/2exb-ag89

Cite this report:

Rogerson-Revell, P., Norton, J., Xu, H., Baldry, F., Stanford, J., & Cajkler, W. (2024). *Enhancing pre-service English language teachers' professional knowledge, skills and confidence through peer microteaching lesson study (PMLS)*. British Council. https://doi.org/10.57884/2EXB-AG89

Contents

About the authors

Professor Pamela Rogerson-Revell is a research professor with extensive experience of collaborative project management, most recently in the study of refugee language and psychosocial needs, using lesson study as the principal vehicle for research and teacher development (BC ELTRA project). She lived in Hong Kong for four years, where she worked in the Department of English at City University of Hong Kong. She provided administrative and academic leadership and support to the collaborative research, leading team members to ensure that all project milestones were met promptly. She coordinated the research data collection and analysis.

Associate Professor Dr Julie Norton is Director of Postgraduate Research and Research Impact and Knowledge Exchange Lead in the School of Education, University of Leicester. She is also Chair of the Lesson Study Research Group. Dr Norton has worked in higher education overseas in France and Japan and is an international expert in English language teaching (ELT) materials development, with significant experience of working with lesson study in teacher education and related publications. Julie led the project as a co-principal investigator with Prof. Rogerson-Revell, coordinating the development of resources on the Moodle platform, leading workshops on lesson study/PMLS and managing the research team.

Assistant Professor Dr Haiyan Xu, educated in China and the UK, has been involved in English language teaching and research for over ten years. Her doctoral research investigated the systemic and contextualised nature of professional learning and practice development through District Research Lesson Study (DRLS) in China. Consequently, her experience of schools and lesson study use in China was central to the support we offered to the Beijing partner institutions. Dr Xu contributed to the project design, development of the online materials, lesson study implementation, and data collection and analysis.

Associate Professor Dr Fay Baldry has worked on collaborative lesson study projects with colleagues in Norway and Japan, with a particular focus on the role of lesson study in pre-service teacher education. For four years she was responsible for the highly successful use of lesson study, commended by Ofsted in one of our school-based pre-service teacher training (SCITT) programmes. She brings a wealth of lesson study experience to the team, evidenced by a growing number of lesson study publications. Dr Baldry contributed to the design of online materials and to data collection and analysis.

Jeff Stanford has a wide range of interests in applied linguistics and ELT, with experience in numerous international contexts. Mr Stanford has worked on British Council teacher training projects in China since 2003. This included the production of materials for a 26-week, Moodle blended-learning assessment literacy course, which was conducted in Beijing, Nanjing and Taiyuan. He contributed to the development of the Moodle platform and online support materials, as well as to the analysis of research lesson data.

Professor Wasyl Cajkler (Emeritus) has extensive experience of working with schools on the use of lesson study in pre- and in-service teacher education programmes. He is the founding chair of the university's Lesson Study Research Group (2011–2019). Professor Cajkler offered advice and support to the project, on an honorary basis, particularly in online consultations about PMLS and in the data analysis.

In addition, the project was supported by **Dr Elodie Walsh**, who is an expert in the implementation of lesson study projects in schools, on which she based her highly successful PhD research. Elodie conducted a detailed independent analysis of the data on which this report is based. Further support was provided by Ms **Shining Wei** who translated the recordings and prepared the transcripts for analysis.

Acknowledgements

The researchers would like to acknowledge the contributions to this project by the British Council in China. Our sincere gratitude goes to Fraser Bewick, Sharon Wang, Kathleen Zhong, Chen Li and Junhong Liang from the British Council. In addition, this project would have been impossible without the participation of our colleagues in the partner universities: Beijing Normal University, Shaanxi Normal University and Hebei Normal University for Nationalities. Their enthusiastic and creative implementation of lesson study was key to the success of the project.

A special mention must be made to the pre-service teacher participants who agreed to implement peer-microteaching lesson study (PMLS) in their initial teacher education programmes. Without them and their tutors, the project would have been impossible. The names of specific individuals must remain anonymous for ethical reasons, but we are deeply grateful to them for their invaluable support of our project.

We also must acknowledge and thank Dr Elodie Walsh for her significant contribution to the analysis of the data, synthesis and writing up of the findings and Ms Shining Wei for her prompt and expert translation work. We are deeply grateful to them.

The project team

<table>
<tr><th>UK team</th><th>China team</th></tr>
<tr><td rowspan="3">University of Leicester

Co-principal investigators:
Professor Pamela Rogerson-Revell
Dr Julie Norton
School of Education, University of Leicester
Project members:
Dr Haiyan Xu
Dr Fay Baldry
Mr Jeff Stanford
Professor Wasyl Cajkler
Dr Elodie Walsh
Ms Shining Wei</td><td>Beijing Normal University (BNU), Zhuhai Campus

Dr Xiaohui Sun
Deputy Director, School of Foreign Languages and Literature
Beijing Normal University (BNU), Beijing Main Campus
Dr Wenting Xie
Associate Professor, School of Foreign Languages and Literature
Ms Xuechen Zhou
Lecturer, School of Foreign Languages and Literature</td></tr>
<tr><td>Shaanxi Normal University (SNU)
Dr Liming Ding
Deputy Director of English Department, School of International Studies</td></tr>
<tr><td>Hebei Normal University for Nationalities (HNUN)
Mrs Shujuan Meng
Director, Associate Professor, School of Foreign Studies
Mrs Fengrong Li
Associate Professor, School of Foreign Studies</td></tr>
</table>

List of abbreviations

BNU	Beijing Normal University
CPD	continuing professional development
EDI	equality, diversity and inclusion
ELT	English language teaching
HNUN	Hebei Normal University for Nationalities
ITE	initial teacher education
PCK	pedagogical content knowledge
PMLS	peer microteaching lesson study
SNU	Shaanxi Normal University
WALS	World Association of Lesson Study

Summary of the report

What is the research about?

This evaluative project, funded by the British Council, investigated the introduction and implementation of peer microteaching lesson study (PMLS) in initial teacher education (ITE) programmes in three teacher education departments in Chinese universities: Beijing Normal University, Shaanxi Normal University, and Hebei Normal University for Nationalities. Two key research questions framed the project:

1. What impact does a PMLS approach have on developing pre-service teachers' professional knowledge and skills?
2. To what extent does participating in PMLS foster confidence and professional identity for pre-service teachers?

The project engaged teacher-educators and pre-service teachers in PMLS. To support them, online materials (Moodle online platform) were developed. In collaboration, we sought to embed lesson study in our partners' school-based pre-service teacher education courses. We shared our experience and knowledge of different models of lesson study and the principles and practice of embedding lesson study in ITE (drawing on Wood et al., 2020; Fernández 2005, 2010; Dudley 2014, 2019; Baldry & Foster, 2020; Cajkler & Wood, 2015, 2016a,b) to encourage our partners to develop a context-sensitive model of PMLS that is effective for developing and sustaining enquiry-oriented learning communities in ITE settings.

How and why was the project created?

The project explored the impact of PMLS on the development of pre-service English teachers' professional knowledge and skills, and the extent to which PMLS fosters confidence and a sense of professional identity.

Effective pre-service professional development is essential to ensure the quality of future English language teachers in China. The project was agreed to address a need for more practical approaches to teacher education to be trialled in contexts where school-based 'practicums' were not possible or relatively limited. This project aimed to offset this, albeit by using a form of collaborative microteaching, and to foster professional learning through the increased collaboration in lesson planning and evaluation processes that lesson study affords. In addition, the project involved the collaborative development of a range of online resources and materials, including the development of an online platform (Moodle) to support teachers and teacher-educators in the implementation of a lesson study approach to ELT professional development.

How was project data collected?

A multimethod approach was agreed with our partners in the three universities, which led to the collection of the following:

- recordings of lesson planning meetings
- video recordings of pre-service teachers' classes
- pre-service teachers' questionnaire data (after using PMLS)
- teacher-educator interviews (after PMLS) conducted with their pre-service teachers to explore the impact of engagement in PMLS
- group interview with the teacher-educators in the three partner institutions
- recordings of lesson evaluation meetings.

The questionnaire and interviews sought the perspectives of the different participants (teacher-educators and their pre-service teachers) to evaluate the impact of PMLS on their classroom practice, teacher identity and confidence, discussing both benefits and challenges in the use of PMLS.

What did the project find?

Project researchers at the University of Leicester independently analysed responses to open questions in the questionnaire and interviews, using constant comparison thematic analysis to complement statistical analysis of Likert-scale responses. Analysis revealed that PMLS was effectively implemented in each institution, but there was variation in the way it was used. Pre-service teachers reported broad enthusiasm, despite some initial incomprehension and uncertainty. PMLS improved their teaching skills, classroom ability and their levels of confidence. They believed that the project enabled them to think like a teacher. These positive outcomes were reported in 105 survey responses, with 90 per cent of responses positive.

There were, however, some challenges, and a small number reported that there had not been positive changes in their teaching due to the perceived lack of authenticity in PMLS cycles. They would have preferred a real practicum. Other challenges were highlighted, such as managing disagreements and arriving at a consensus about what to focus on in the research lessons and how to organise the lesson. Although they reported gains in confidence and expertise, they needed more detailed preparation in the resolution of disagreements and in the giving of feedback on the quality of learning in classrooms. This would involve more input on how to observe teaching and learning in the classroom and what to observe, and on ways of giving feedback before embarking on this kind of collaborative practice.

Teacher-educators were enthusiastic about the outcomes and the process of PMLS, reporting that PMLS had a transformative impact on their practice and they would continue

using the model. Engagement in PMLS improved collaboration, quality of discussion, teaching skills, reflection and pre-service teachers' curriculum knowledge. The process fostered confidence, team spirit, motivation and passion for teaching. In general, they reported that PMLS was 'great' for preparing pre-service teachers, and they were very grateful for the opportunity to implement PMLS, claiming that this was a major improvement on their previous practice. They were keen to embed PMLS in their future programmes and resolved to replace their traditional use of microteaching with PMLS.

Recommendations

Where possible, we recommend the inclusion of school-based teaching practices. However, if this is not possible, PMLS acts as a highly effective vehicle for the development of pre-service teacher expertise and confidence. The project team are developing an online platform to support the dissemination and implementation of PMLS as an open-access resource for teachers, teacher-educators and related stakeholders.

1. Introduction

1.1 Project rationale and aims

This report documents the development, findings and recommendations of a collaborative research project between the University of Leicester, UK, and three teacher education departments in Chinese universities: Beijing Normal University, Shaanxi Normal University and Hebei Normal University for Nationalities. The study was ambitious in scope and reach, trialling the use of peer microteaching lesson study (PMLS) as an alternative approach to the peer-teaching practice traditionally used to support English language teacher development in the three departments. Typically, in these settings, limited practicum opportunities are available for the pre-service teachers in schools, so two key conditions framed this project:

- limited opportunities for reflective teaching practice in Chinese university pre-service teacher education programmes exist, as participation in practicum is restricted or not available at all
- the use of PMLS with pre-service teachers was trialled with three guiding aims: (1) to foster reflective practice, (2) to develop pedagogical content knowledge (PCK; Shulman, 1986), and (3) to provide opportunities to explore the complexity of the language classroom.

1.2 Project background and aims

Effective pre-service professional development is essential to ensure the quality of future English language teaching. This includes opportunities to practise and reflect on classroom teaching techniques, skills and management. However, time and resources to enable reflective teaching practice are often limited in Chinese university pre-service teacher education programmes. The principal premise of this project was that incorporating a lesson study approach within peer microteaching sessions on such teacher education programmes could foster reflective practice for pre-service teachers, as well as facilitate development of their PCK. Furthermore, developing EdTech materials, in the form of a Moodle online platform, as a training tool in the use of PMLS offers a sustainable, cost-effective solution, with potential impact for pre-service teacher development at regional and national levels in China.

The project aimed to contribute to English teacher pre-service education in a comprehensive, reflective way, enabling pre-service teachers to explore, in collaboration with their peers, the complexity of the language classroom through the lesson study process. This allowed the pre-service teachers to investigate pedagogy in a systematic and supported way, with the focus on development of expertise in planning, teaching and lesson evaluation. Thus, the research would contribute to our greater understanding of English teacher pre-service needs in this context and to developing the resources needed to support

the implementation of microteaching lesson study in university-led teacher education modules.

The project draws on EdTech and digital solutions for English language teacher training, with practical resources that focus on the development of PCK in pre-service English language teachers, embedding sustainable and cost-effective continuing professional development (CPD) in the form of lesson study. In addition, the development of a multimodal online platform, hosted on Moodle, should facilitate wide-scale access both nationally and internationally to new and practising teachers and stakeholders.

The project focused on the following research questions:

- What impact does a PMLS approach have on the development of pre-service Chinese ELT teachers' professional knowledge and skills?
- To what extent does participation in PMLS foster confidence and a sense of professional identity for pre-service ELT teachers in China?

2. Literature review

2.1 What is lesson study?

Lesson study is a classroom-based, collaborative mode of professional learning originating from Japan (*jugyou kenkyuu*, meaning 'lesson study'). It is 'a systematic investigation of classroom pedagogy conducted collectively by a group of teachers rather than by individuals, with the aim of improving the quality of teaching and learning' (Tsui & Law 2007: 1294).

Typically, a lesson study cycle involves small groups of teachers collaboratively planning a 'research lesson'. Once agreed, this research lesson is taught by one of the collaborating teachers while other members of the team observe, with a focus on the learning and participation of a small number of pre-selected case students (Dudley, 2014, 2019). The lesson is then reviewed, with a particular focus on the activity of the case students and what evidence this offers about their learning (Hiebert & Stigler, 2000). The understanding developed in this review process about the quality of learning and teaching is used to inform the planning of future lessons. Such lessons, subjected to systematic collaborative analysis by participating teachers, are called 'research lessons' or 'study lessons'. The process can be summarised as follows.

Planning

A **research lesson** is jointly planned by a small group of teachers, often three or four collaborating teachers.

Teaching and observation

One member of the group teaches the lesson while other teachers in the planning group *observe* (making detailed notes about learners' activities – notes that will be shared by all participants).

Post-lesson review

The teacher and the observers record their own impressions of the lesson and prepare to contribute to the post-lesson review.

Collaborative post-lesson review

Post-lesson discussion involves teachers focusing on evidence of learning in the lesson; the meeting should include discussion of how the lesson could be improved.

In schools in the United Kingdom, the lesson study cycle is often carried out following advice given by Pete Dudley (2014, 2019), which we adapted to present the model illustrated in Figure 2.1 to our Chinese partners.

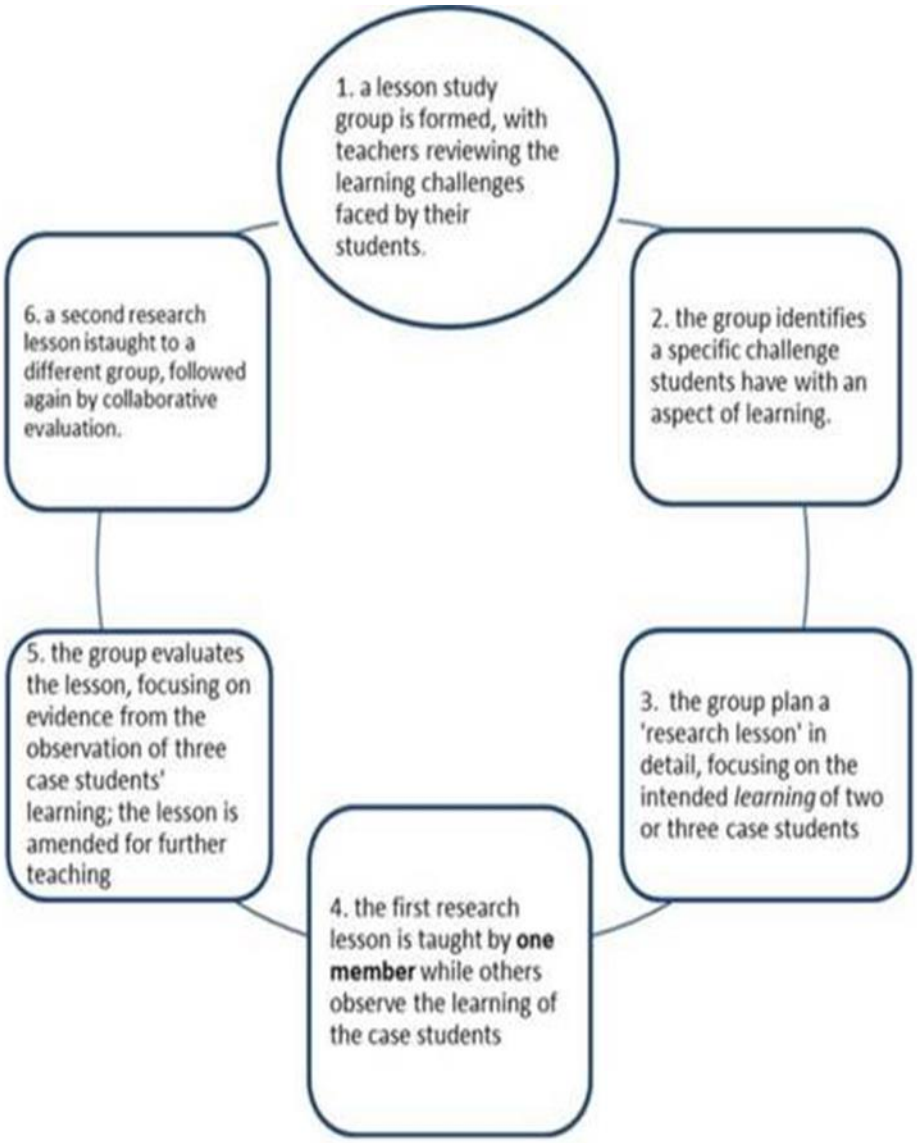


Figure 2.1: A lesson study cycle

2.2 The benefits of lesson study

According to Sims and Walsh (2009: 732), the lesson study process opens the classroom to deep exploration and offers 'a true glimpse of what it means to learn from teaching'. Taking part in collaborative enquiries into improving teaching and learning is the single most impactful action a school leader can take to improve educational outcomes for pupils (Robinson et al., 2009). The importance and value of collaboration in preparing for and evaluating teaching cannot be overestimated.

Increasingly, lesson study is believed to be an effective form of collaborative professional development at all levels of teacher development (Xu & Pedder, 2014; Xu, 2020). It involves small teams of teachers, and experts, who collaboratively plan a research lesson, a practice-

oriented collaborative form of professional learning that involves educators in active observation of instruction (Lewis & Perry, 2017). Instead of enacting externally directed initiatives and curriculum materials without appropriate training, engagement in lesson study combines the strengths of educators' leadership with the strengths of research-based knowledge (Lewis & Perry, 2017), developed in the context of the participants.

Within lesson study, teachers lead this collective enquiry into their own practice with the aims of enhancing the quality of instruction and pupil attainments. Students are placed at the heart of the research process. Participation in lesson study also fosters the development of collegial networks (Lewis et al., 2009, Murata & Takahashi, 2002) as teachers work closely with colleagues within a supportive framework (Bocala, 2015; Kusanagi, 2021). As such, lesson study is a school-based teacher learning routine that supports both individual and collective learning (Bocala, 2015; Dudley et al., 2019). More specifically, lesson study has been shown to enhance teacher professional learning, bridging the gap between teachers' current knowledge and beliefs and research-based knowledge (Lewis & Perry, 2017: 263) and enables them to open the pedagogic black box (Cajkler et al., 2013) for critical exploration. Teachers increase their understanding of new curriculum content, subject matter and PCK, which refers to 'the ways of representing and formulating the subject that makes it comprehensible for others' (Shulman, 1986: 9). It also improves their ability to reflect critically on the quality of teaching, as they review its impact on student learning (Lewis, 2002; Wang-Iverson & Yoshida, 2005).

The lesson study model has developed dynamically over time to accommodate a wide range of educational contexts and subject areas, as well as the diverse needs of practitioners, policymakers and researchers (Kusanagi, 2021). However, improvement through the lens of lesson study is incremental in that teachers' effectiveness and student learning outcomes can only develop over time through repeated lesson study cycles. Its efficacy is significantly increased if it is embedded in teachers' daily practice and/or schools' long-term plans.

2.3 Lesson study in initial teacher education (ITE)

The use of lesson study in ITE has been growing in recent years (for examples see Larssen et al., 2018; Wood et al., 2020; Leavy & Hourigan, 2016), but its use is likely to vary from country to country, depending on the requirements of different teacher training systems. In some instances, it is possible for prospective teachers to carry out lesson study cycles during periods of practical experience in schools (for example, Chassels & Melville, 2009; Cajkler et al., 2013; Helgevold et al., 2015; Munthe et al., 2016). In other settings, adaptations have been used, most notably in relation to the PMLS project that is discussed below.

Reasons for using lesson study in ITE include the opportunities it affords for the development of collaboration and learning about pedagogy among prospective teachers. Fourteen experienced teacher-educators from universities in Leicester, Stavanger and

Valencia collaborated in the writing of a book on lesson study in ITE (Wood et al., 2020), in which the effectiveness of collaboration was highlighted by all contributors, for example:

> … *collaborative planning in LS* [lesson study] *groups in ITE offers a positive way to induct pre-service teachers more efficiently into a community of practice and bridge the gap between what they learn during teacher training courses and what actually takes place in schools. (*Norton et al., 2020: 71)

The alternative to collaboration is the pedagogic solitude that many teachers have experienced in the past. Stigler and Hiebert (1999) opened our eyes to the need to focus more on improving pedagogy than on the performative observation of individual teachers if we want to improve the quality of teaching. That is what motivated this and other projects to incorporate lesson study into teacher education at the pre-service level.

Research conducted by the Lesson Study Research Group at Leicester (e.g. Cajkler et al., 2013; Baldry & Foster, 2020) has led us to conclude that lesson study can be successfully applied in ITE. In summary, lesson study:

- is a highly flexible, and challenging, model of learning about teaching in all its complexity
- enables teachers to escape the 'pedagogic solitude' of their own classrooms
- allows teachers to look inside the pedagogic 'Black Box' to grow their pedagogic literacy (Cajkler & Wood, 2016c), their understanding of how to teach in its complexity
- develops pedagogic content knowledge (Shulman, 1986).

2.4 What is peer microteaching lesson study (PMLS)?

One of the first pioneers of PMLS was Fernández, on whose work we have drawn for inspiration. PMLS has been pioneered in settings where a practicum is not possible, most notably by Fernández (2005, 2010).

Microteaching, which is not a new teacher training technique, is used to help pre-service teachers to prepare for teaching in real classrooms and was originally developed at Stanford University (Remesh, 2013). It is a kind of off-site teaching practicum (Budi Suryani & Rismiyanto, 2018) that allows pre-service teachers to practise teaching under controlled conditions (Griffiths, 2016). This training approach can be useful especially in pre-service education programmes where provision of in-school professional placements and internships is limited, as was the case for Chinese participants in this project. Microteaching typically consists of prospective teachers presenting an individual scaled-down lesson, perhaps 5–20 minutes in length (Fernández, 2005), to groups of peers, who are expected to act as students, in a topic which they may be less familiar with, for example biology specialists teaching history specialists. Microteaching experiences are individual and focus

on teaching discrete skills (Fernández, 2005), although the approach may vary across teacher training courses.

PMLS, such as that developed by Fernández (2005, 2010), has drawn on and developed from models of microteaching by blending it with aspects of the lesson study cycle. Like Japanese lesson study for practising teachers, PMLS engages prospective teachers in a collaborative and recursive cycle of lesson planning, teaching, analysis and revision (Fernández, 2005: 37). PMLS may be used in teacher preparation programmes to enrich courses that are not able to include a significant amount of practical classroom experience or to prepare pre-service teachers for the demands of a practicum (for example Griffiths, 2016; Zhou & Xu, 2017). The process 'engages prospective teachers in cooperative learning to develop their understanding and ability to plan, implement, and reflect on lessons' (Fernández, 2005: 38). In that sense, PMLS draws on the characteristics of Japanese lesson study (Stigler & Hiebert, 1999) mentioned above as 'knowledge is developed through cycles of planning, implementing, and reflecting on lessons' (Fernández, 2005: 38) conducted by small groups of prospective teachers.

In English language ITE programmes in this project, the model of PMLS illustrated in Figure 2.2 was suggested for use or adaptation.

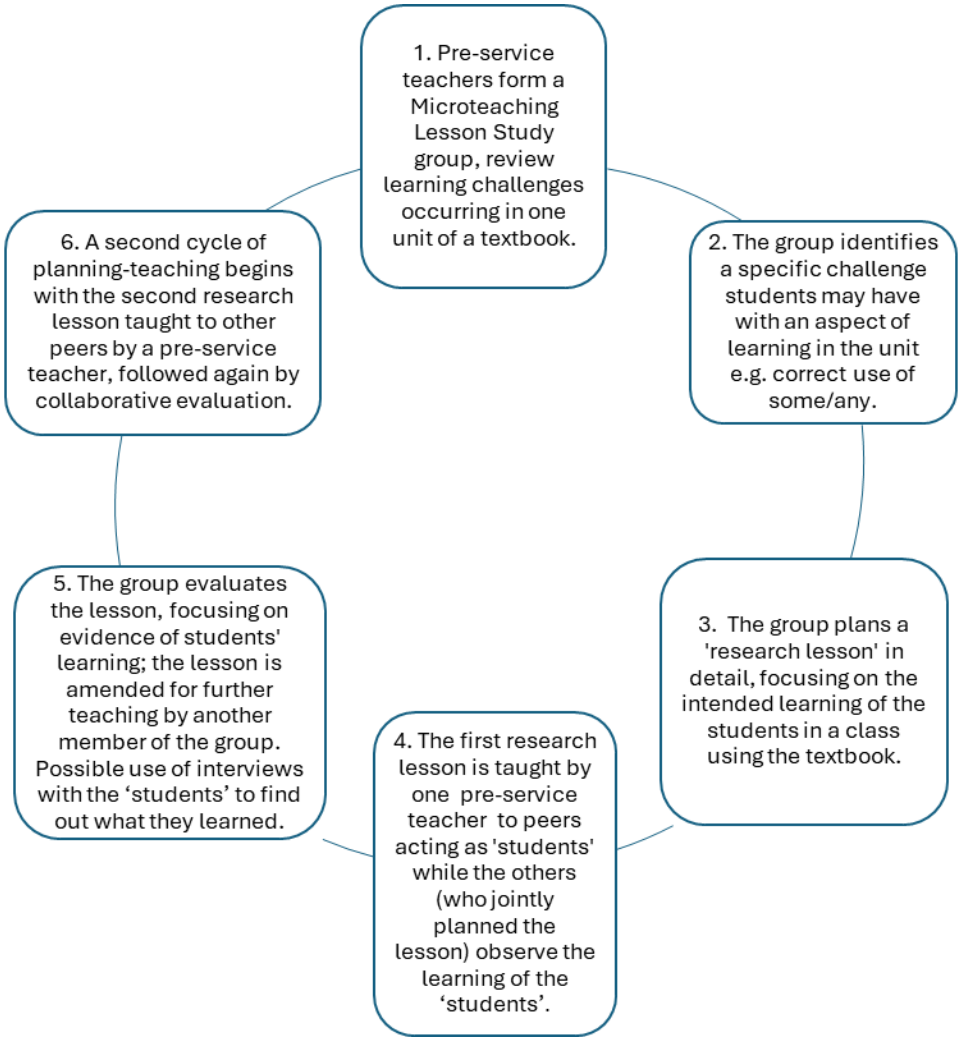


Figure 2.2: A possible PMLS cycle

There were variations in the ways in which our partners incorporated PMLS into their practice, depending on the respective course contexts and constraints. However, the basic collaborative planning-teaching-observation and evaluation cycle, exemplified in Figure 2.2, was observed in all three universities.

The approach to implementation and data gathering is described in the next section.

3. Methodology

3.1 Project design

The project was planned and implemented collaboratively between the UK and China project teams from the outset. The project duration was limited to one year; consequently, partners had to work to a tight schedule with regular online meetings and workshops. The overarching design of the project was based on the implementation and evaluation of PMLS as part of each of the three Chinese partners' ELT teacher education courses. As outlined in section 2 of this report, the implementation of PMLS involves an action-research process, whereby peer groups of pre-service teachers plan, conduct and evaluate a PMLS lesson. In order to do this in each of the three Chinese universities, careful planning and collaboration was needed to ensure the feasibility of the study in terms of conducting preparatory PMLS workshops with the UK and Chinese teacher-educators, selecting pre-service teacher participants, timetabling and recording lessons, arranging evaluation meetings and conducting interviews, all within the confines of the three universities' curricula.

The project was conducted in the four phases outlined in Table 3.1.

Table 3.1: Phases of the one-year research project

Phase	Dates	Activities
Phase 1: Collaborative planning and initial implementation	January–March 2023	• Confirm project aims and research questions. • Collaboratively plan details of research design–PMLS in teacher education courses. • Agree and establish project platform (Moodle). • Conduct initial online workshops on lesson study with Chinese partners.
Phase 2: Implementation of PMLS in pre-service ELT courses and data collection	April–July 2023	• Conduct further collaborative online workshops on PMLS and relevant data collection methods. • Create project online platform. • Implement PMLS in teacher education courses in three Chinese partner universities. • Collect qualitative and quantitative data at each of the three Chinese partner universities.

Phase 3: Collaborative data analysis and drafting of findings	August–October 2023	• Analyse qualitative and quantitative data collected. • Evaluate the use of PMLS in each of the three teacher education courses. • Further develop the project online platform. • Draft the final report for the British Council.
Phase 4: Completion and delivery of the project outputs	November–December 2023	• Finalise British Council report. • Further develop project platform into open access lesson study resource. • Disseminate initial findings through conference presentation (e.g. WALS conference). • Agree on further dissemination and impact plans (publications, conferences, etc.).

3.2 Data collection

A multimethod approach to data collection was agreed collaboratively with our partners in the three universities, which resulted in the following data sets (see also Figure 3.1):

- recordings of pre-service teachers' PMLS lesson planning meetings
- resources for PMLS lesson implementation (e.g. lesson plans, textbook samples)
- video recordings of pre-service teachers' PMLS lessons
- recordings of pre-service teachers' PMLS lesson evaluation meetings
- pre-service teachers' questionnaire (after PMLS)
- teacher-educator interviews with some pre-service teachers (after PMLS)
- interviews with the teacher-educators in the three partner institutions.

The PMLS implementation took place during the teacher education courses at each university, typically lasting between 8 and 12 weeks from March to June 2023, as shown in Table 3.2.

Table 3.2: Participation in PMLS at SNU, BNU and HNUN

	Shaanxi Normal University	**Beijing Normal University**	**Hebei Normal University for Nationalities**
Title of teacher education course	**Foreign Language Pedagogy**	**English Teaching Skills**	**Design and Practice of English Language Teaching for Junior High School**
Duration of teacher education course	**12 weeks**	**8 weeks**	**8 weeks**

Number of teacher-educators involved	**1**	**2**	**2**
Number of pre-service teacher participants	**45**	**30**	**30**
Number of PMLS groups	**4**	**6**	**10**
Group PMLS video recordings	**10**	**12**	**10**
Number of observed lessons	**60**	**60**	**68**
Group PMLS case student interviews	**12**	**6**	**20**
Lesson-related artefacts – coursebooks, lesson plans, teaching units	**12**	**6**	**20**
Pre-service teacher questionnaires completed	**105 in total**		
Teacher-educator interviews	**1:1 peer interview**	**Group interview by peers**	**1:1 peer interview**

The questionnaire and interviews sought the perspectives of the different participants (teacher-educators and their pre-service teachers) to evaluate the impact of PMLS on their classroom practice, teacher identity and confidence, discussing both the benefits and challenges in the use of PMLS.

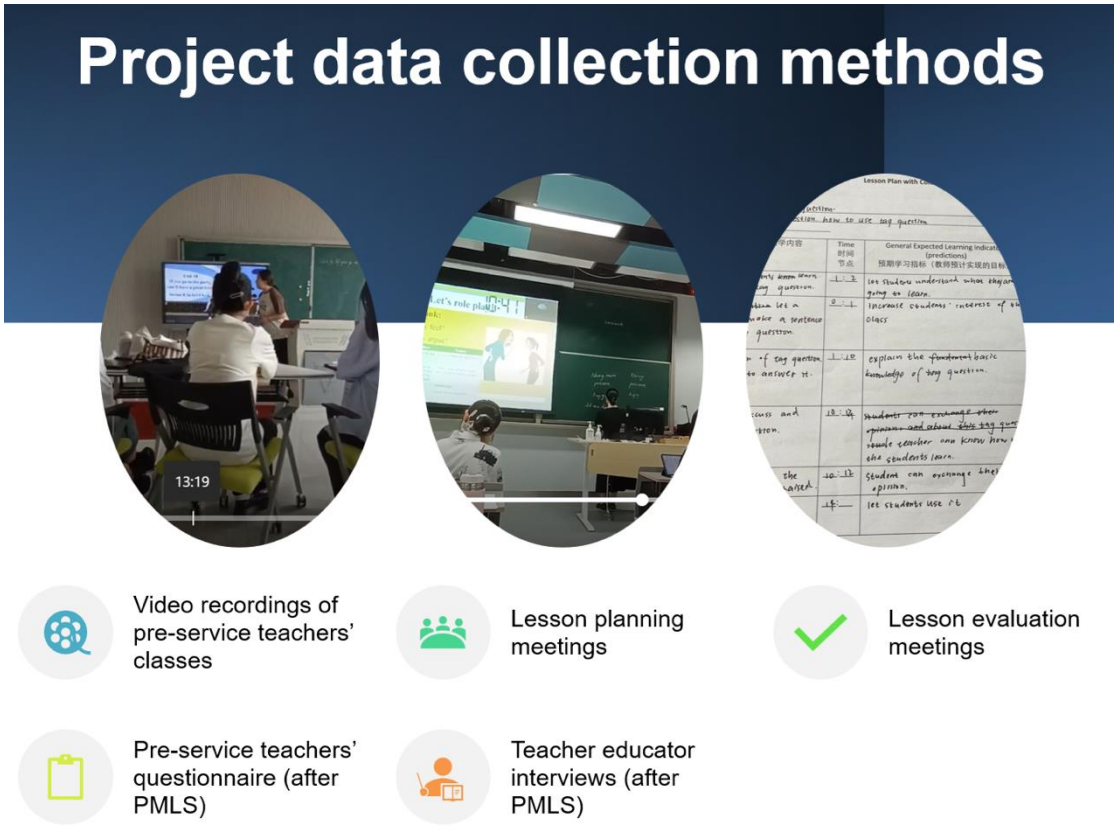


Figure 3.1: Data collection methods

3.3 Data analysis

A substantial amount of qualitative and quantitative data was collected – more, in fact, than had been anticipated. Consequently, the project team had to be selective in deciding what data to prioritise for analysis for this project, with a view to conducting further analysis of any remaining data at a later stage.

A mixed-method approach to analysis was adopted, incorporating qualitative and quantitative approaches where appropriate. The aim was to triangulate data as far as possible to develop a comprehensive understanding by combining and comparing the data sets from the pre-service teachers and teacher-educators.

Analysis of the pre-service teacher questionnaire data

The questionnaire was sent out electronically at the end of February 2023, via the Chinese survey platform Wenquxing. After a three-week response window, 149 responses were received initially. An Excel datasheet spreadsheet, which contained individual responses to each question, and an automatic summary report were downloaded from the survey platform, which formed the basis of the analysis. Further careful cross-examination of the respondents' IP addresses and response patterns identified 44 duplicates that were

subsequently removed, resulting in 105 valid responses. As the duplicates tended to appear in short intervals of a few seconds, they were likely to have been caused by some respondents clicking the submission tab multiple times in quick succession. The number of responses matched the total number of pre-service teacher participants in the project, indicating a response rate of 100 per cent. The finalised 105 responses were used and formed the basis of the analysis.

The questionnaire instrument was initially developed in English by the Leicester project team. The decision was made to translate it into Chinese, considering richer and more authentic reflection could be elicited if the participants could think and write in their first language. Hence the downloaded Excel datasheet was initially in Chinese. A member of the team who is fluent in both Chinese and English then translated the datasheet into English, first through Google Translate, followed by careful item-by-item proofreading. The data translation and initial analysis were carried out in the summer months of 2023. Preliminary findings were reported in the September report to the British Council.

The questionnaire had three sections.

- Questions 1–4 sought background information from the respondents.
- Questions 5–9 focused on PMLS activities, particularly how the pre-service teachers had used PMLS in their university settings.
- PMLS questions 10–19 (closed questions) and open questions 20–22 asked for respondents' views on their participation in the study.

The questionnaire contained four types of questions: closed multiple-choice questions, Likert-scale questions, open questions for factual information, and open questions that were intended to elicit more extended reflection and retrospection from participants on their experience of PMLS and professional development through the project. Methods of analysing these different questions are described below.

Quantitative data (closed multiple-choice and Likert-scale questions)

The questionnaire contained six multiple-choice questions and ten Likert-scale questions. Descriptive statistics (Cohen et al., 2017) were calculated on both types of closed questions. The purpose was to understand patterns of response through calculating percentages and ratios. Where appropriate, pie and bar charts are used to offer a visual representation of the data.

Qualitative data (open-ended questions)

The questionnaire contained three factual open questions and three retrospective open questions. Factual open questions asked for information such as the focus of the participants' PMLS activities, how many members worked together in a group and why they intended to work in a certain type of school upon completion of their studies.

The responses to these questions were typically brief words or phrases. These responses were analysed using a combination of word-cloud analysis and simple counting of recurring topic focus or reasons.

Responses to the retrospective questions were more varied, from single words or short phrases to a few sentences or even long paragraphs. More in-depth thematic analysis (drawing on Braun & Clarke, 2006) was carried out to interpret this data set. To ensure reliability of analysis and interpretation, four team members each conducted initial sweeps of the data, identifying recurring themes. These were then compared and further integrated to identify common themes and create broader thematic categories. It should be noted that the analysis of these questions was an iterative process, with preliminary analysis conducted in the summer of 2023, followed by project members revisiting the data and analysis on a question-by-question basis over a period of two months, until more integrated thematic categories were developed.

Analysis of pre-service teachers' meetings and teacher-educators' interviews

A large amount of qualitative data was collected, both from the pre-service teachers and from the teacher-educators who participated in this study, over a period of four to six months (see Table 3.2).

Given the quantity of data collected from the pre-service teachers involved, it was decided to select a representative sample from each of the three institutions for close analysis. One group of pre-service teachers involved in the PMLS study was therefore selected from each university, and the project team analysed a range of data relating to the PMLS cycle, i.e. a) pre-PMLS group planning meetings, b) relevant lesson plans and teaching materials, c) video recorded PMLS classes, and d) post-PMLS evaluation meetings.

Where the PMLS cycle was repeated, all relevant data was collected. As previously noted, there was some variation in how PMLS was conducted in each of the three institutions in the PMLS groups, as summarised by the lead teacher-educator from Shaanxi Normal University in Table 3.3.

Table 3.3: Organisation of PMLS groups at Shaanxi Normal University

Many groups	**Some groups**
Choose curriculum collaboratively	Choose curriculum individually
Select and analyse materials collaboratively	Select and analyse materials individually
Design lesson collaboratively	Design lesson individually
Rehearse collaboratively	Rehearse individually
Present collaboratively	Present individually
Reflect collaboratively	Reflect individually

Any data from interviews, group meetings or recorded PMLS lessons that was collected originally in Chinese was initially translated using electronic software into English and then carefully re-edited by one of our bilingual colleagues. As with the qualitative data from the questionnaires, a process of detailed thematic analysis was used to extract the emerging themes.

3.4 Ethical considerations

The EMaDA (English Materials Development Award) project gained ethical approval from the participating universities confirming that the research study would abide by ethical procedures and guidelines that respect the rights and well-being of all participants, irrespective of ethnicity, gender, disability and cultural or socio-economic background. These procedures included requirements to make sure that all data is securely stored and only retained for a set time, to safeguard participants' rights to privacy and confidentiality.

One of the principles of the project was that PMLS was conducted in an atmosphere of positive mutual regard, ensuring that all participants, including pre-service teachers, received a positive educational experience. All members of our research team also had a sound understanding of gender equality and equality, diversity and inclusion (EDI) issues, and in line with Official Development Assistance (ODA) funding guidelines, our project aimed to be both gender- and EDI-sensitive.

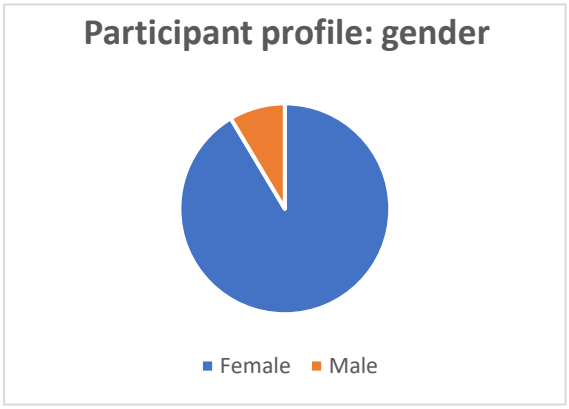
4. Findings – pre-service teachers' data

The findings are organised in two parts. In this section, the pre-service teachers' questionnaire responses (105 participants) are reported. In section 5, we present the findings from the interviews conducted with teacher-educators. A copy of the questionnaire and interview schedule can be found in Appendix 1.

4.1 Part one of the pre-service teachers' questionnaire – participant profiles

The first part of the questionnaire (Qs 1–4) asked about the respondents' gender, the types of schools (i.e. primary, junior high or senior high) and geographical locations (urban versus rural) where the pre-service teachers intend to work after graduation and why. The purpose of this section was to understand the significance and reach of the project by determining potential impact across different geographical regions in China beyond the locations of the participating teacher training institutions.

Figure 4.1: Participant profiles – gender



Of the 105 pre-service teachers who completed the questionnaire, 95 were female (91 per cent) and nine were male (9 per cent) (Figure 4.1). This reflects the typical gender balance on pre-service ELT programmes in Chinese universities, and hence is considered a representative sample.

As shown in Figure 4.2, the vast majority (90 per cent) of respondents indicated an intention to teach in a secondary school upon graduation, with 57 per cent intending to teach in a junior high school (Y7–9) and 33 per cent intending to teach in a senior high school (Y10–12). Only a very small proportion (3 per cent) intended to teach in a primary school. A further 7 per cent were unsure about their career destinations at the point of the survey. The extremely high ratio of secondary school aspirants is interesting. This might be because the respondents are enrolled students in top- or high-ranking teacher education universities in China. Teaching in secondary schools is often associated with higher prestige than in primary schools due to the level of subject expertise required.

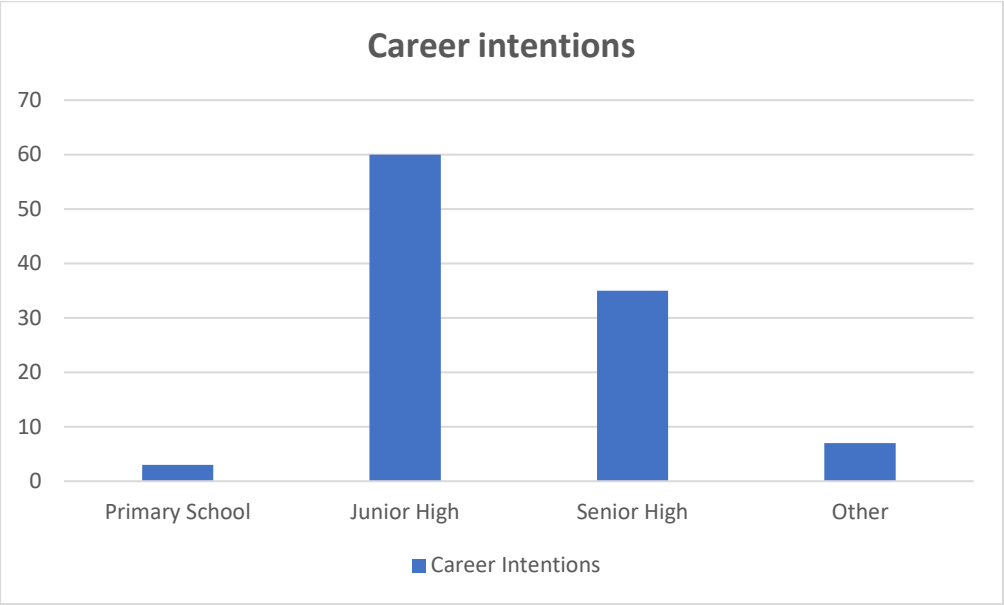


Figure 4.2: Participant profile career intentions

Eighty-seven respondents (83 per cent) stated that they planned to work in an urban school upon graduation, while 18 (17 per cent) planned to work in a school in rural towns or villages. The word-cloud analysis in Figure 4.3 depicts the reasons for their choices, with the most frequently mentioned benefits of living in a city being proximity to home, better teaching facilities and resources, convenience, pay and career prospects. The benefits of rural locations were reduced stress and improved work–life balance.

Figure 4.3: Word cloud representing reasons for participants' choice of school and location

A more nuanced representation of these findings is represented in Figure 4.4. Among the 87 respondents who intended to work in city schools, 22 cited 'close to home' as the main reason. This indicates that this group of respondents initially came from cities and intended to return to their home cities for work. Others are attracted to working in cities for a better environment and more convenient living, and better pay and benefits, but also very

importantly better facilities and resources in city schools, the combination of which were seen to promise more attractive personal and career development prospects in future.

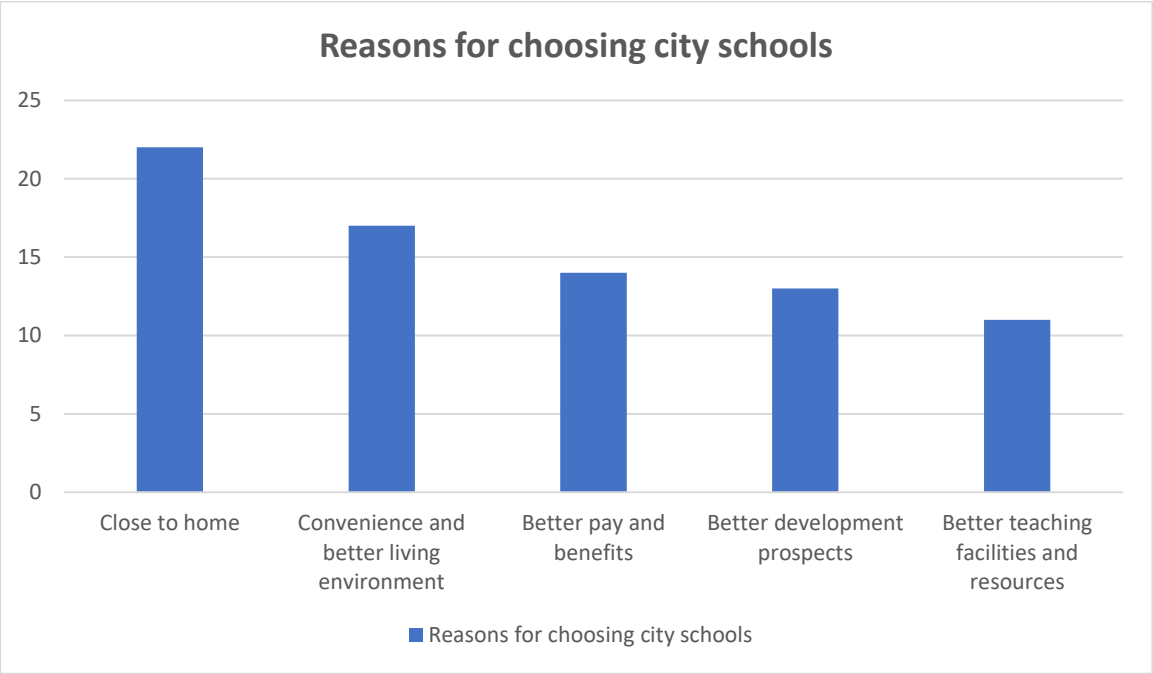


Figure 4.4: Reasons for choosing to work in city schools

For those who intended to work in schools in rural towns and villages, the cited reasons were slightly different, as shown in Figure 4.5. Some respondents are attracted to working in the rural areas for less stress and better job security. Others cited reasons such as 'closeness to home' and 'contractual obligations'. This suggests that these pre-service teachers initially came from rural areas either on a self-funded basis or funded by their local governments. As a result, they intend to return to their birthplaces to teach. One respondent made an explicit comment about wanting to go back to contribute to the development of the local area.

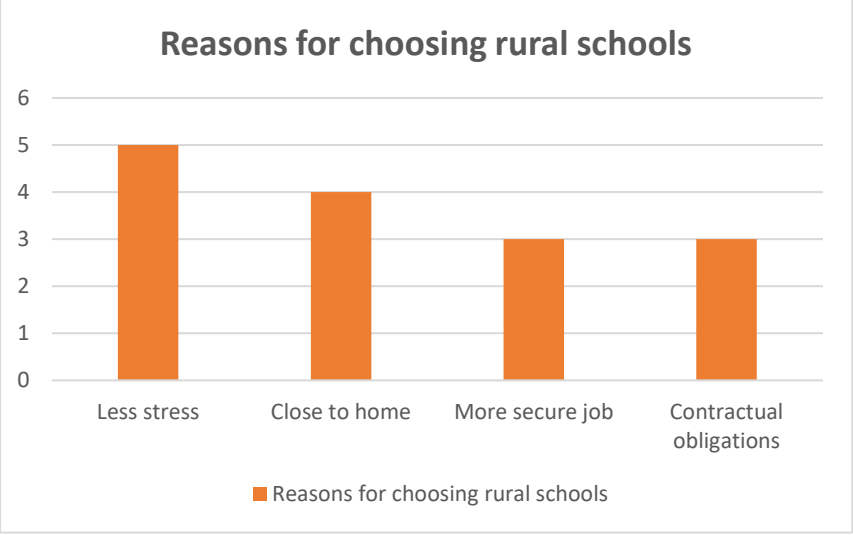


Figure 4.5: Reasons for choosing to work in rural schools

4.2 Part two of the pre-service teachers' questionnaire – focus of PMLS activities

The second section of the questionnaire contained five questions (Qs 5–9), which gathered contextual data about the participants' PMLS activities, including the topic foci for their research lessons, composition of the PMLS groups, lesson planning and the role each member played in the PMLS cycle.

A total of 86 respondents provided answers to the question: Which teaching topics are involved in your PMLS activities? Analysis of the open text responses indicated that discussion in PMLS groups focused on three strands: language skills (18), themes or topics (62) and teaching/learning (6). These strands are summarised in Table 4.1.

The first strand (language skills) included reading, listening, speaking, writing and grammar. The second focused on topical content such as lifestyle, people and society, culture, leisure activities, food and healthy eating, sports and health, and nature and the environment. The third strand focused on aspects of teaching and learning, such as lesson design, setting learning objectives, instructional language, classroom management and how to be a learner.

Table 4.1: Focus of PMLS group planning discussions

Language skills (N=18)	**Topical content (N=62)**	**Teaching/learning issues (N=6)**
Listening, speaking, reading, writing Grammar	Lifestyle People and society Culture Food and healthy eating Sports and health Leisure activities (holidays, shopping, party) Nature and environment Jobs and career planning Family life	Lesson design Learning objectives Instructional language Classroom management How to be a learner

Topic areas rather than grammar items dominated the discussion, perhaps reflecting the organisation of the textbooks with which the pre-service teachers were familiar.

Regarding group size, 100 participants reported working in groups of between two and seven, with most participants (86 per cent) working in groups of five or more (see Figure 4.6).

Only 14 worked in groups of between two and four, which is the more typical size of a lesson study group recommended and often adopted by in-service teachers. Fifty-three pre-

service teachers found themselves in groups of six or seven, which raises concerns about the evenness of participation in the groups. It is likely that participants in the project worked in larger groups due to their class size and for other organisational reasons, which requires further exploration. A third of the group worked in groups of five.

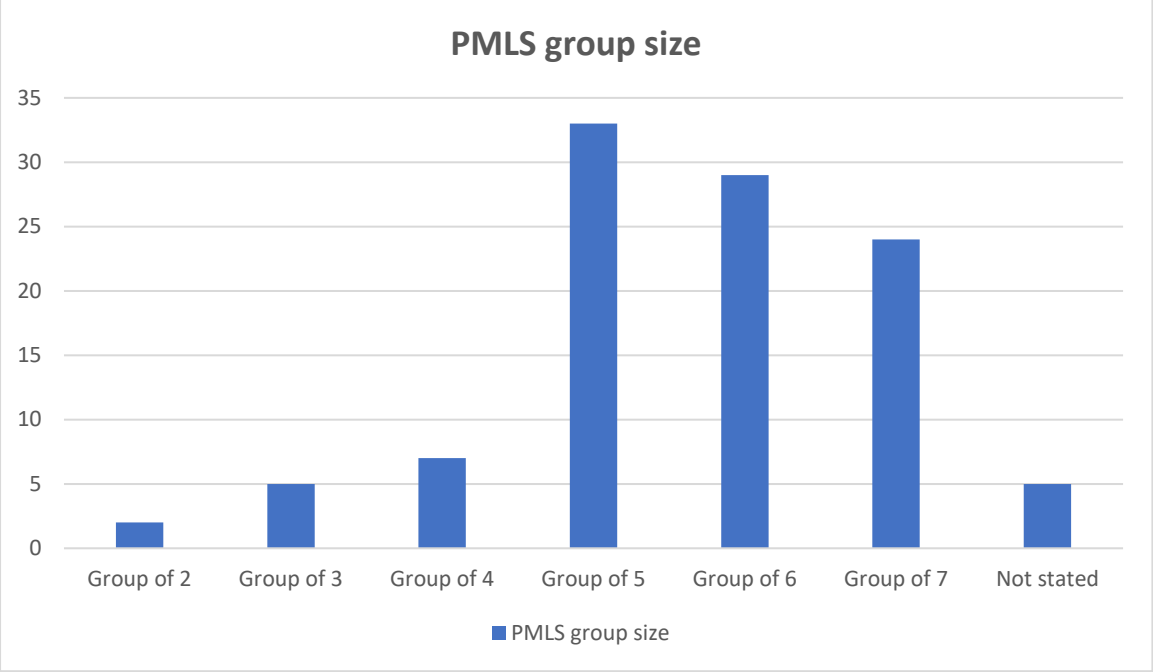


Figure 4.6: PMLS group size

Lesson planning and role adoption

Questions 7–9 asked how the participants planned their lessons and what roles they adopted in the PMLS groups. The data shows that the overwhelming majority (N=95, 91 per cent) planned the lessons collaboratively as a group, while a small minority (N=10, 9 per cent) planned lessons individually. So, most were able to embrace the collaborative element of PMLS faithfully, as recommended by the project team. In future implementation, it is hoped that all research lessons would be collaboratively planned.

Approximately 70 per cent (N=73) of the 105 respondents indicated that they had played the role of teacher and had taught a research lesson during PMLS, while 90 per cent (N=94) stated they had played the role of observer. These two figures may seem contradictory, but in fact this is most likely because the participants each adopted multiple roles during the PMLS, with some participants involved both as teacher and observer. Ideally, in future iterations all participants would have the opportunity both to teach and to observe.

4.3 Part three of the pre-service teachers' questionnaire – evaluation of the impact of PMLS: closed and open questions

The third section of the pre-service teachers' questionnaire contained ten five-point Likert-scale questions (Qs 10–19), eight positively framed, while two were negatively framed. It also included three open questions (Qs 20–22). Table 4.2 presents the results for the closed questions, which are discussed further below.

Closed questions

Table 4.2: Evaluating the impact of PMLS (Qs 10–19)

	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
Q10 I learned a lot about how learners think by working with other pre-service teachers in peer microteaching lesson study (PMLS) groups.	0 0%	1 0.9%	9 8.6%	64 61%	31 29.5%
Q11 Participating in PMLS did not improve my understanding of students' learning.	11 10.5%	46 43.7%	11 10.5%	28 26.7%	9 8.6%
Q12 Participating in PMLS has improved my classroom teaching ability.	0	1 0.95%	1 0.95%	68 64.8%	35 33.3%
Q13 Planning with others improved my own lesson planning skills.	0	1 0.95%	4 3.8%	69 65.7%	31 29.5%
Q14 Discussion in planning meetings focused on identifying objectives and suitable activities.	0	8 7.6%	4 3.8%	71 67.6%	22 21%
Q15 Collaborative evaluation after research lessons helped me to think more like a teacher than before.	0	1 0. 95%	5 4.8%	68 64.8%	31 29.5%
Q16 Discussion in evaluation meetings improved my understanding of teaching and learning.	0	0	2 1.9%	70 66.7%	33 31.4%
Q17 Confidence in my classroom management skills has increased since I did PMLS.	1 0. 95%	4 3.8%	16 15.2%	54 51.4%	30 28.6%
Q18 My ability to understand what was going on in the classroom did not significantly develop through my work in the PMLS project.	12 11.4%	35 33.3%	14 13.3%	29 27.6%	15 14.3%
Q19 PMLS provided a useful vehicle for me to reflect on my professional identity as a teacher.	0	0	5 4.8%	71 67.6%	29 27.6%

There was a high level of agreement with all the positively framed questions. Most pre-service teachers agreed or strongly agreed with the statements, indicating that PMLS had a positive impact. For example, Q12 and Q16 showed that 98 per cent of participants agreed that participation improved aspects of their teaching.

The response patterns of the negatively framed questions (Qs 11 and 18) were not the inverse of the positively framed statements and did not align with the open-ended questions (Qs 20–22). Our conjecture is that the prominence of positively framed questions may have resulted in some misreading of the two negatively framed questions, leading to potential confusion.

The least positive responses were for Q17, about confidence in classroom management skills, with 80 per cent in agreement. In comparison, responses regarding impact related to instructional design and understanding student learning (Q14 and Q10) were more positive. As discussed in more detail later, in open questions (Qs 20–22), some participants drew attention to the differences between teaching their peers and teaching in real school classrooms. These pre-service teachers found the connections between participation in PMLS and classroom management less convincing. Responses to Q19 and Q15, however, indicated that most pre-service teachers perceived that participation in PMLS had had a positive impact on their identity as a teacher.

Open questions

The final three questions (Qs 20, 21, 22) in the questionnaire invited open responses to explore in more detail if and how PMLS had made an impact on the participants' teaching ability and their professional identity as a teacher, and any challenges participants had encountered. Responses to these questions are summarised below under three themes: impact, challenges and identity.

Impact of PMLS on teaching ability (Q20)

Question 20 asked participants if – and if so, how – PMLS activities had improved their teaching ability. Most responses were positive, with 98 respondents stating that their teaching practice had improved. However, this level of enthusiasm needs to be qualified. Of those 98, 14 just answered 'yes', and four others used a vague one-word answer such as 'improve' or 'increased'. Some also exemplified their improvements with vague generic claims about learning from PMLS, for example 'have learned from others'.

Two did not reply at all and five were unreservedly negative suggesting that their engagement in PMLS had not improved their practice at all. Unfortunately, those replying 'none' (5) did not elaborate, perhaps because they concluded that this question did not

invite any negative explanations. There was one blank and one completely incomprehensible response.

So, while five were negative, a further 17 per cent of pre-service teachers offered one-word (yes) or vaguely worded responses, which could indicate that PMLS had had a limited impact on their skills and professional identity. Some claimed that PMLS lacked authenticity, was idealised or not sufficiently close to reality. Consequently, they did not feel that this prepared them effectively to work in real classrooms. They also experienced specific challenges in the planning stage, such as setting clear learning objectives or designing a coherent lesson plan with tasks that aligned with their objectives. During the teaching stage, issues arose related to classroom management, including the use of classroom language and sustaining learners' interest. During the post-lesson evaluation stage, lack of skills to provide classroom feedback was mentioned.

On the other hand, more positive respondents (at least 80 per cent) focused on the processes in which they engaged (e.g. collaboration, feedback, discussion) and the outcomes achieved (e.g. improved planning, better teaching design). There were few mentions of confidence in response to this question, but working together was clearly welcomed. The word 'design' came up a lot in relation to teaching, which our colleagues in China explained as a concept that captures a full range of issues, including implementing the curriculum in the planning and design of appropriate classroom activities.

Detailed responses focused on the learning process associated with collaborative PMLS, how collaboration – including joint planning, discussion and peer evaluation – had a positive impact on their practice, highlighted deficiencies in their teaching skills, improved their use of classroom language, facilitated learning from others and enhanced their understanding of the curriculum. For instance, respondent 23 answered at length:

> *Yes. When exchanging ideas and designing teaching activities, there will be a lot of exchanges and discussions, and you will find that there are wonderful ideas colliding with each other. Classroom drills, when watching other members' lectures, learn their advantages, reflect on their deficiencies, and make improvements. Demonstrate evaluation, listen to effective suggestions from other students, and help improve teaching ability.*

Respondent 25 expressed similar views:

> *Improved my teaching ability. I can understand each other's thinking through communication with my peers, so as to improve my skills and enrich my classroom.*

Respondent 31 commented upon increased understanding of materials development and sharing knowledge:

Yes. Through micro-class case research activities, we have a better understanding of the teaching materials and students' knowledge, and give members the opportunity to show on stage, so as to improve teaching ability.

Engagement in the processes needed to carry out PMLS (collaboration, trialling approaches in the research lesson, providing feedback on practice) enabled participants to grow their pedagogic knowledge and skills such as planning, managing the classroom and developing appropriate materials (see Table 4.3).

Table 4.3: Number of times (in brackets) specific impacts were identified by pre-service teachers

Processes enhanced	Skills enhanced
• Collaboration (51) • Practice (15) • Reflection (15) • Evaluation (8) • Value/importance of feedback (14) • Observation (9)	• Shortcomings addressed (8) • Teaching design (20) • Teaching skills improved (18) • Learner responsiveness (8) • Classroom language use (5) • None (5) • Deeper understanding of materials (4) • Just responding yes (14)

These processes and outcomes will be further discussed in the next two sections on the challenges of PMLS and the impact on teacher identity.

Challenges of engaging in PMLS (Q21)

Participants were asked to describe the two principal challenges they faced in participating in PMLS. Many themes were identified, but the most frequently mentioned difficulties centred around eight themes: collaboration, objective setting, 'teaching design', understanding one's students, lack of authenticity in PMLS (not real classroom practice), evaluation, time and anxiety. Each of these is discussed briefly below.

Collaboration

References to disagreement and uncertainty occurred 25 times in the open-ended responses to Question 21. Some of the quotes were positive in acknowledging the challenge of working with others, while also appearing to recognise the qualities of teamwork needed. Others referred to the process of trying to find a way forward as a difficult and time-consuming exercise. Disagreement was mentioned or implied on at least 11 occasions. One pre-service teacher (respondent 36) offered a very precise summary of the challenge: 'It is a bit difficult to make a choice when you disagree with your partner.'

Setting objectives

Objective setting was mentioned as a challenge by ten respondents. For example, respondent 6 identified a degree of dissonance arising between the objectives and the activities designed for the class, raising awareness of the complexity of what they called teaching design (see next section): 'The teaching objectives and teaching activities cannot be matched.'

On the other hand, another respondent (31) agreed that this was a difficulty that went beyond the planning and teaching of lessons and into the evaluation phase of the PMLS cycle: 'Determination of teaching objectives and writing of teaching reflections'.

Arriving at clear objectives, and then designing activities to match the objectives, and reflecting on the way the lesson met the objectives were all deemed to be demanding activities. The admission that they were demanding could be interpreted as suggesting that the PMLS process had given participants a concrete and practical experience of what it means to be a teacher, engaging them in the processes required from planning, through the teaching and into the evaluation of a lesson's impact and quality.

Teaching design

'Teaching design' was a phrase that recurred many times in the responses. Following clarification from teacher-educators in the three universities, we learned that teaching design covers a range of topics associated with PCK, for example understanding the curriculum, selecting appropriate content, planning, matching objectives to activities, working out how best to put the content across to the students. What occurs in the classroom may not always appear to match what is planned or predicted. Issues associated with the design of teaching were mentioned by 32 respondents, a clear priority in this setting. On two occasions, there were specific mentions of how the plan and the reality proved to be quite different, another acknowledgement of the complexity of the classroom. For example:

> *There is a big gap between the written teaching design process and the actual teaching process, and it is necessary to continuously summarize experience for improvement.* (respondent 36)

In addition, four people mentioned that they had inadequate teaching skills and had felt unprepared for the challenge. So, it is safe to conclude that just a little over one third of the group was concerned about the teaching process itself. It was a challenge, but other data suggest that the pre-service teachers, in the main, worked hard to address the challenge.

Understanding students

Students were specifically mentioned (eight times) in relation to the design of teaching, with their engagement, interest and difficulties being acknowledged as challenges for the PMLS teams:

How to get close to the real classroom to the greatest extent, and how to introduce the important and difficult points of this lesson naturally and smoothly, so that design students can easily understand and accept. (respondent 16)

Mobilize students' enthusiasm in class. (respondent 4)

Think about how to design innovative and effective classroom activities and how to increase student engagement. (respondent 22)

The difficulty in understanding student responses to the lesson in terms of feedback and their development were also mentioned by a small number of respondents. This concern included the degree to which student understanding was not sufficiently recognised or evaluated, as identified by respondent 51 who captured the complexity in somewhat confusing terms:

Lectures are always limited to speaking out the prepared content. It feels more like a ppt report rather than a lecture. The design of teaching activities depends on the design template. In many cases, the degree of completion of the students is not considered, and the degree of difficulty is difficult.

In this view, teaching [lectures] seems to have been prepared as a script to be followed without adequate consideration of how students would make progress, possibly making the lesson too difficult.

Understanding one's students, evaluating their engagement and assessing progress are challenges for teachers that continue throughout a lifetime in teaching. It is positive that PMLS engaged participants in reflection on such important professional challenges, and awareness of the need to work towards understanding one's students was certainly highlighted by engagement in PMLS.

Lack of PMLS authenticity

Ten respondents mentioned that PMLS was not real classroom practice, as the setting and the students were not realistic. This feeling that PMLS lacked sufficient authenticity in relation to the mainstream classrooms that they were likely to encounter was expressed by just over ten per cent of the sample in terms such as:

Lack of experience and little understanding of real classrooms (respondent 38)

The teaching target is high-school students, and the teaching target is college students during the research. (respondent 101)

Students' responses are not realistic enough. (respondent 102)

Evaluation

Evaluation skills in general were mentioned as a challenge by four respondents, but there seemed to be an impression that a shallow understanding of feedback and evaluation

needed to be addressed in preparing pre-service teachers for lesson study. Post-lesson evaluation was an issue, also triangulated from the evidence we have from evaluation meetings. How to give feedback was mentioned, as was what to focus on in the observation and discussion of teaching quality. In this regard, the presence of a 'knowledgeable other' tasked with offering guidance could be an issue for further development as PMLS is embedded in the ITE provision of the participating universities.

Time

Surprisingly, time was only explicitly mentioned on nine occasions, which could suggest that students were managed in such a way that time for preparation and evaluation meetings was well integrated into the programme. Not all mentions were necessarily negative in nature, for example respondent 17 discussed time management and organisation in the following detail:

> *Peer micro-lesson research activities require you to invest a lot of time and energy. Classroom instruction needs to be prepared, delivered, and documented. Subsequently, there is a need to participate in group discussions, share experiences and observations, and participate in the process of improving teaching methods. This entire process requires the leader within the group to arrange time reasonably, ensure that all tasks are completed within the scheduled time, and coordinate the timetable with peers.*

Anxiety

Another dimension to the discussion of time related to anxiety, impeding interaction in the group activities. One pre-service teacher experienced anxiety as time was tight and they felt unable to ask a question as a result:

> *Time is tight, and I'm embarrassed to ask a lot of questions (not sure if my advice is correct).* (respondent 97)
>
> *I am too embarrassed to ask too sharp questions when listening to the class.* (respondent 67).

Impact of PMLS on professional identity as a teacher (Q22)

Regarding open question 22, 105 participants responded, with the vast majority (N=90, 86 per cent) stating that taking part in PMLS had indeed had a positive impact on developing their professional identity as a teacher. About 14 per cent (N= 14) responded negatively to this question, including one response of 'uncertain'. Among the 90 positive responses, 26 only responded 'yes', without elaborating on how the impact was achieved, while 61 per cent (N=64) provided explanations or exemplifications of how their professional identity had been positively impacted. The following themes were identified from the open responses.

Development of professional knowledge and skills through simulating teaching

A quarter of the respondents (26) attributed their enhanced sense of professional identity to the improvement of teaching skills and abilities achieved through the PMLS process. They provided examples of improvements to specific skills and abilities, such as curriculum design, lesson planning, classroom organisation and management, the use of ICT tools, and managing teacher/student interaction. These respondents highlighted the importance of 'simulating teaching' in helping them to really get into the role of a classroom teacher.

> *For example, in microteaching, my peers will really listen to my microteaching like students, and I will feel like a real teacher.* (respondent 71)
>
> *There is a deepening of professional identity. Every time I discuss with my peers, I try to think about the teaching design from the perspective of the teacher and try to think about how the students should behave and imagine the specific situation and abilities of the students from the perspective of the teacher in the classroom. In this process, teachers' professional identity is continuously strengthened.* (respondent 63)
>
> *In the PMLS activity, we simulated the real classroom environment, and had a more immersive way to think about problems from the perspective of students.* (respondent 57)

The last two quotes above are interesting in relation to understanding the process of PMLS. One stressed seeing the lesson from the perspective of the teacher, the other through the eyes of the learners, which is the message that was given to participants embarking on lesson study. The implication of this divergence is that future preparation of PMLS should highlight more strongly the student-centred focus of the planning and teaching of research lessons.

Development of new professional lenses and perspectives through simulating learners

Enhanced professional identity was attributed by 17 respondents to the development of new professional lenses, especially trying to consider more when thinking about teaching and learning. Participants highlighted the opportunity of 'simulating a learner' in PMLS as particularly beneficial for helping them to think about students' interests, feelings, learning difficulties, prior knowledge and learning progression when planning a lesson. They acknowledged that these aspects of pedagogy were not what they would naturally learn through their normal teacher preparation courses. Considering the perspectives of learners enabled them to better understand 'the relationship between teaching and learning' and to understand that 'learning is very important to teaching'.

> *For example, when we become teachers, we take into account the feelings of students, which we cannot learn in the* [university] *classroom.* (respondent 25)
>
> *Microteaching can help teachers design personalized courses. Teachers can design various levels and styles of teaching content according to students' interests and ability levels to meet the needs of different students. At the same time, teachers can also dynamically adjust teaching content and teaching methods according to students' learning progress, so that students can maintain enthusiasm in learning and achieve better learning results.* (respondent 46)

Enhanced sense of efficacy, responsibility, commitment and satisfaction

A total of 18 respondents reported an enhanced sense of professional identity due to the positive feelings (affective factors) experienced during the PMLS activities, such as joy, interest, sense of achievement, and satisfaction when they planned and delivered a successful lesson. This contributed to strengthening their confidence and self-efficacy as a teacher. Self-efficacy relates to a person's beliefs about their own ability and their capacity to deal with tasks and challenges. Bandura (1977: 193) argues that a strong perceived self-efficacy is a powerful determining factor in how people cope with situations, persevere with tasks and cope with challenges: 'The strength of people's convictions in their own effectiveness is likely to affect whether they will even try to cope with given situations.'

Bandura (1977: 194) claims that 'perceived self-efficacy' could directly influence what people choose to do and how: 'Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts.' As a result, students who have a positive perception of their efficacy are more likely to engage and persevere when faced with challenges, expending significant levels of commitment, motivation and effort to succeed in tasks.

Through experiencing the effects of their teaching on students, participants developed an enhanced sense of professional value and responsibility as a teacher, which in turn strengthened their commitment to the teaching profession.

> *You can determine whether you have explained each knowledge point clearly through the reactions of your peers, and you will have a strong sense of professional identity as a teacher when you see the effect.* (respondent 36)
>
> *Through the microlesson research activities with my peers, I gradually learned that as a teacher*, *I have a sense of responsibility and a sense of accomplishment from imparting knowledge to students.* (respondent 16)

A further five respondents attributed their enhanced professional identity to the opportunity of 'simulating professional collaboration' with their peers. The pre-service teachers felt encouraged and empowered by the prospects of professional sharing and the mutual support they were likely to receive in the teaching profession through lesson-study-like activities:

> *Professional sharing: You can share your teaching experience, teaching methods and teaching resources with your peers. This kind of professional sharing can help me get in touch with various teaching concepts and innovative practices, thereby broadening my teaching horizons and enhancing my sense of professional identity.* (respondent 17)
>
> *In the future, teachers will also have collective activities of the teaching and research groups of subjects of the same grade. As a preview, I can feel in advance what it will be like to be a formal teacher in the future.* (respondent 2)

> *Designing lessons together before class and discussing how to improve the class after class made me realize the daily life of the task group in the life of future teachers.* (respondent 67)

One respondent described how they were inspired by their peers to become a better teacher:

> *There are students in our group who have many ideas and are very good. They also speak fluent and pleasant spoken English. They teach in confident and natural ways. They let me see what an excellent English teacher looks like. They inspire me to become an excellent English teacher.* (respondent 77)

Additionally, four respondents highlighted the joy of learning and reflective growth through the PMLS activities and its effect on their identification with teaching as a learning- and growth-oriented profession.

One respondent stated:

> *You will find that this process of continuous improvement is very interesting, and you can initially perceive what a growth-oriented teacher should be like.* (respondent 97)

Another respondent reflected:

> *I can participate in reflection and discussion of my own teaching practice. This reflective process helps me think deeply about and evaluate my teaching methods, discover potential room for improvement, and obtain feedback and suggestions from my peers*. *Opportunities to learn and grow can stimulate my desire for knowledge and career motivation, continuously improve my teaching skills and knowledge level.* (respondent 17)

The following quote aptly summarises how the participants' professional identity developed and strengthened through the project:

> *In this process, I am not only more interested in the profession of teachers, but also more determined that I must be a good teacher.* (respondent 6)

The feedback from participants in the project was generally positive. While there were a small number of pre-service teachers who were not entirely convinced of the value of PMLS, the majority believed that their confidence, expertise and satisfaction were enhanced by participating in collaborative PMLS.

Professional identity mostly developed at an individual, but also at a collective, level through group work, which helped them develop a sense of responsibility towards providing high-quality teaching to students. At a conceptual level, many aspects of the responses seemed to relate to the self-efficacy of pre-service teachers. They included confidence, which came through in the way that some pre-service teachers expressed themselves in

very articulate and educationally literate ways. They talked the talk and walked the walk, feeling that they were better prepared to work in real classrooms 'to be a formal teacher' (respondent 2) and to be part of a community of practice where they could work closely with colleagues not only to teach but also to conduct research on their own practice. There was evidence of changes in beliefs about teaching, for example that it is not only about imparting academic knowledge but also about moral and emotional education, about fulfilling a greater goal of educating people (respondent 65) and placing learners at the centre of the process of planning teaching and reviewing the quality of lessons.

Increased motivation and enthusiasm towards teaching were expressed, for example 'experience the joy of teaching' (respondent 3), and several said they were looking forward to working in a real classroom, to being part of a community of practice and 'overcoming challenges together' (respondent 20). The impact of collaboration seemed to have been quite considerable.

It could be concluded that there was evidence in the more detailed responses of increased professionalism, illustrated by a keen sense of responsibility and increased commitment towards providing high-quality teaching. There was recognition of the need to work hard and always look to improve their teaching skills, with the importance of placing the learners at the heart of the planning and teaching process clearly recognised. They were aware of the need to critically review learners' reactions and behaviours to gauge whether teaching is effective.

4.4 Conclusions from questionnaire data

The responses to the open questions indicated greater reflection on the participants' own practice and growing awareness of their own shortcomings and deficiencies in teaching design, with greater awareness of the complexity of teaching. Most respondents were confident that their engagement in PMLS had impacted positively on their professional knowledge, identity and confidence. They believed that PMLS was an effective approach for pre-service education, but that there are limitations.

PMLS presents many advantages, which pre-service students reported. These include collaboration with peers, in terms of studying the content together, as well as joint writing of the lesson plan, being able to observe, teach and review together and being able to revise and try the lesson again. They claimed that there were gains in classroom management, time management, clearer teaching designs (despite challenges discussed above), improved classroom language and demeanour/body language, increased knowledge of how to apply theory to practice and more in-depth analysis of teaching materials. The importance of increasing their knowledge of learners was also clearly recognised.

In relation to the development of professional identity of pre-service teachers, there was evidence of the emergence of a shared understanding of the professional community into

which they were being inducted, with shared values, shared vision and shared commitment to provide high-quality teaching to students. Consequently, we argue, many expressed that they were looking forward to working in real classrooms.

5. Findings – teacher-educator data

In this section, we document the perspectives of the teacher-educators who participated in the project in terms of the impact, benefits and challenges that they and their pre-service teachers experienced while implementing PMLS in their teacher education courses.

The following results are drawn from the thematic analysis of teacher-educator interviews, including one group interview involving three teacher-educators from BNU and two individual interviews of teacher-educators from HNUN and SNU. They focus on the processes as well as the advantages of engaging in PMLS. In addition, they discuss the impact of PMLS on pre-service teachers' professional learning.

Overall, teacher-educators agreed that PMLS enhanced pre-service teachers' professional learning: 'it's very good; students benefited a lot' (HNUN teacher-educator). The triangulation of the results from both the teacher-educator interviews and the pre-service teachers' questionnaire responses suggests that participation in PMLS helped them to develop their professional knowledge and skills, as well as their confidence and professional identity, although several challenges were also highlighted. The following key themes emerged from the analysis of the teacher-educator interviews.

5.1 Impact on pre-service teacher working practices

Four principal impacts were identified as important outcomes from engagement in PMLS, which are briefly introduced below.

Collaboration

All teacher-educators reported that most students had made 'great progress' because of the collaborative element of PMLS, as they 'were able to discuss with each other, inspire each other, and put forward some corresponding suggestions in group co-operation, which also greatly improved their teaching ability' (HNUN teacher-educator). Teacher-educators praised the opportunity PMLS gave to pre-service teachers to engage in collective enquiry of their practice as they jointly planned and reviewed lessons. They reported that pre-service teachers responded positively to the challenge: they were open to each other's ideas and 'accepted suggestions humbly' (HNUN teacher-educator).

Iterative process

Teacher-educators were incredibly positive about the iterative process inherent to PMLS compared to the use of microteaching that focuses on pre-service teachers making one-off presentations. One teacher-educator relayed a pre-service teacher's feedback:

> *Wow, teacher, I think this peer teaching is so good, and we have the opportunity of presenting again.* (BNU teacher-educator)

PMLS afforded pre-service teachers the opportunity to revise their presentations and teaching practice without the pressure of being formally assessed, giving them time to improve. This created a less threatening and more secure learning environment for pre-service teachers, who can often feel anxious about teaching. Indeed, the latter was reported in our questionnaire data.

Ongoing evaluation process

Teacher-educators provided their pre-service teachers with ongoing opportunities to assess their own work through self-evaluation forms. They also reported the significant impact of peer review, especially since students responded more positively to criticism from peers than from teacher-educators:

> *I realised that peer evaluation is of great significance, because during microteaching, while one student teaches, other students should take on roles of pretending to be the students, then they can actually participate in the class from the perspective of a learner and give an evaluation that is different from the teacher's viewpoint.* (BNU teacher-educator)

This continuous feedback enabled pre-service teachers to evaluate the quality of their teaching to learners, albeit other pre-service teachers who acted as learners and observers. As an illustration, if a question was met with silence during a taught lesson, they knew that they had to revise its wording. Access to video footage and materials further enhanced pre-service teachers' level of reflection, as they were able to review and discuss their practice collaboratively with peers as well as their mentors and subject leaders. This enabled them to get a broader view of teaching and learning from different standpoints. The process was enhanced through teacher-educators adjusting their communication style as they made a deliberate effort to provide encouragement and positive feedback to help pre-service teachers gain 'a positive emotional experience and overcome their fear of teaching' (BNU teacher-educator). Positive feedback and encouragement were shown to impact on the self-esteem and self-efficacy of pre-service teachers as well as the quality of teacher–student relationships.

Active engagement and ownership of professional learning

Pre-service teachers were actively engaged in learning about teaching as opposed to being passive receivers of knowledge from their teacher-educators.

> *They improved significantly through their own practical experiences, far more than what the teachers imparted to them.* (SNU teacher-educator)

Engagement in PMLS enabled pre-service teachers to take charge of their own professional learning and to see the value of increasing their own theoretical knowledge to deliver higher-quality teaching. Teacher-educators acted as facilitators who were available to help their students in a timely fashion. Less direct instruction enabled pre-service teachers to improve 'on their own' (BNU teacher-educator). As well as the processes of PMLS, teacher-educators reported marked improvements in their pre-service teachers' teaching practice, which are reviewed in the next section.

5.2 Practical outcomes of participation in PMLS

Teacher-educators reported a range of positive impacts on their pre-service teachers' classroom skills, leading to improvements in teaching, classroom organisation, approaches to learning about teaching and confidence, as explained below.

Improved teaching and practical skills

Teacher-educators from all three universities reported that pre-service teaching skills had improved over the course of the PMLS trials. Their students were able to create more detailed lesson plans reflecting curriculum standards with clear learning objectives, as well as including new pedagogical approaches to optimise the quality of teaching and learning. Teaching materials also improved, particularly in relation to the organisation of the information on the PowerPoint presentations, which were less messy and 'more concise focusing on the key points' (BNU teacher-educator). Pre-service teachers used more engaging, learner-centred teaching techniques such as diverse questioning, which resulted in less teacher talk. Teacher-educators also noticed an improvement in pre-service teachers' classroom language and teaching manner, as exemplified by the following quote:

> *In the beginning, they may give lectures with their backs to the students, but then they corrected it.* (BNU teacher-educator)

Several practical skills that can support the delivery of higher-quality teaching were impacted positively by pre-service teachers' engagement in PMLS. These included technical skills, as they learned to use a smartboard and video equipment, and blackboard presentation skills in creating mind maps, which can support students' subsequent learning:

> *Whether the writing on the blackboard highlights the key points, and then whether the blackboard writing would be helpful to the subsequent practical activities and innovative activities? And in the later microteaching, many students will consciously*

use this mind map to display the content of the course and microteaching. (BNU teacher-educator)

Enhanced professional reflection and learning

Engagement in the PMLS process helped pre-service teachers identify gaps and deficiencies in their theoretical knowledge and teaching skills. There is evidence of the accelerated learning of pre-service teachers, who made faster progress than through the previous microteaching teacher-training approach. They gained a higher level of skills more rapidly, as reported by one teacher-educator who witnessed the reactions of some of his other students:

> *At that time, the whole class was truly impressed, saying 'Oh, (…) this sophomore has just completed their second year of university, had already become educational researchers. Their level of skill is incredibly high'.* (SNU teacher-educator)

As well as improved teaching skills, teacher-educators observed that pre-service teachers developed their understanding of English learning activity theory involving interpretation of texts and of curriculum content. This led to a deeper understanding of English teaching activities that matched the curriculum standards more closely.

Increased professionalism, confidence and motivation

Teacher-educators witnessed an increase in the confidence and motivation of their pre-service teachers, who were more willing to experiment with new teaching techniques and appreciated the relevance of studying curriculum standards in greater depth:

> *The teaching design our students are now doing is completely based on the concepts of the new curriculum standards, so it represents a transformation in their previously held learning philosophy and an update of this teaching philosophy that he had in mind.* (BNU teacher-educator)

The team spirit that was cultivated through PMLS within groups of pre-service teachers, and between teacher-educators and pre-service teachers, contributed to fostering a positive professional ethos that in turn impacted favourably on the professional identity of pre-service teachers. As well as a professional identity, pre-service teachers developed personal qualities, such as humility and increased maturity, reflected by their ability to accept criticism and suggestions from peers and other educators, including subject leaders and external specialist teachers.

Teacher-educators also observed an increase in pre-service teachers' enthusiasm for teaching and improvements in their practice, partly due to the fact they felt encouraged by the quick progress that both they and their peers had made. This also stemmed from the

powerful sense of affirmation that they received from their teacher-educators as well other experts or 'top teachers'.

Consequently, pre-service teachers took personal responsibility for providing high-quality teaching to optimise student learning, which enhanced their professional ambition and their commitment and dedication to the teaching profession. Teacher-educators mentioned how some of their pre-service teachers showed interest in taking part in teaching competitions or entrepreneurship projects and were motivated to conduct further research using lesson study during their internships in schools.

5.3 Changes in pre-service teachers' beliefs about teaching

Teacher-educators witnessed an overhaul of pre-service teachers' previously held philosophy and concept of teaching, which was based on their previous experience as learners. They developed an awareness of the complexity of teaching as well as a better understanding of what it takes to be a good teacher; they 'realized that being a teacher is more than simply reading the textbook aloud, which is what they previously thought' (SNU teacher-educator). They also became aware that teaching is not only about imparting academic knowledge but also about being able to provide social-emotional support to learners.

5.4 Challenges

Although engagement in PMLS impacted positively on pre-service teachers, teacher-educators also described several challenges. For example, some pre-service teachers showed some initial resistance to engaging in PMLS 'because they found it difficult as they were sophomores' (SNU teacher-educator). Some of the pre-service teachers did not take the model seriously since they were given informal feedback and were not assessed formally. This led teacher-educators to think that as well as the formative aspects of PMLS, a summative component should be included in the process.

Teacher-educators thought that the PMLS project had been too short and, consequently, did not impact on all pre-service teachers in the same way, as some of them needed more time to apply theory to practice.

Lack of time to give appropriate feedback to student- teachers during the PMLS trial in large groups was also reported as a significant challenge: 'the time for feedback from the teacher or external tutor is very limited, so it is quite rushed' (BNU teacher-educator).

5.5 Overall considerations

Implementation of PMLS by teacher-educators: effective preparation work

Teacher-educators followed the guidelines provided by their colleagues from the University of Leicester closely and implemented PMLS successfully, completing two cycles over a 9- to 12-week period. They took the time to read relevant literature to fill gaps in their own theoretical knowledge of lesson study, which is 'not just about improving teacher skills unilaterally but it's about collectively enhancing analytical and thinking abilities' (SNU teacher-educator).

They organised pre-service teachers into small groups that designed and delivered lessons to their peers, who acted as learners in the classroom. By the end of each cycle, teacher-educators had access to a wide range of data sets, which helped them evaluate the impact of PMLS on pre-service teachers' professional learning and practice. They involved knowledgeable others, who provided expert advice and feedback and created a good support system for the pre-service teachers:

> *I remember that there was one student* [pre-service teacher] *in my class who had difficulty determining the appropriate level for their activity* […] *Then they followed up with us and continued the discussion with us in the WeChat group. With the teacher's guidance they gained a clearer understanding of activities at different levels.* (BNU teacher-educator)

What did teacher-educators and pre-service teachers say about PMLS?

All teacher-educators reported that the PMLS experience was positive and that pre-service teachers learned a lot. Several comments and findings suggest that engagement in the process was transformative, especially in relation to pre-service teachers who were initially more 'resistant' and 'rebellious':

> *the fact that they engaged in such comprehensive reflection and improvement was truly heartwarming. I never expected this experience to be so unforgettable.* (SNU teacher-educator)

Teacher-educators agreed that PMLS prepared their trainees for work placements more effectively than their previous microteaching approach, which focused on individual professional development through them making short presentations about their lessons to each other. Pre-service teachers were more confident, which became evident when they completed their internships in schools:

> *It provided them with a thorough preparation for their educational internship in the first semester of their senior year.* (BNU teacher-educator)

This highlighted the usefulness of the university course for working in real classrooms. One teacher-educator implied that the PMLS model was fit for purpose in matching the profile and the needs of a new generation of pre-service teachers who 'are more self-centred' and do not hesitate to 'voice their opposition' (SNU teacher-educator).

Teacher-educators claimed that the collaboration within PMLS had helped their pre-service teachers to learn from each other, to resolve issues jointly and to identify gaps and deficiencies in their knowledge and teaching skills, at both an individual and collective level. Through engagement in this joint inquiry of their practice, pre-service teachers felt encouraged to try out new teaching techniques – asking more questions to engage learners:

> *He told me that he wasn't used to asking questions* [when he teaches]*, so he would just talk all the time without any interactions, and his peers encouraged him* [to ask more]*.* (BNU teacher-educator)

Collaborative work combined with timely and constructive feedback enhanced the quality of the lesson design and teaching of pre-service teachers. Peer evaluation was also viewed as being most effective in improving the quality of teaching. The importance of hands-on experience was stressed, enabling pre-service teachers to realise their own difficulties individually and as a group, and highlighting the fact that 'practical experience is the true teacher' (SNU teacher-educator). As they were involved in assessing the quality of their teaching through self- and peer feedback, they could take ownership of their own learning. Feedback from knowledgeable others was less threatening as it occurred within a less hierarchical structure where all were equal as professional learners.

The findings that are reported in this section, focusing on teacher-educators' perceptions of PMLS, correlate with the pre-service teachers' responses in the questionnaires. Overall, both teacher-educators and pre-service teachers feel that engagement in PMLS has enormous potential to help them develop their practice: it can make teacher-educators more skilled at supporting their students, and pre-service teachers more effective classroom practitioners who value collaboration and continuous learning and deal with challenges with confidence and resolve.

What adjustments did teacher-educators make to the model to fit their context?

Teacher-educators adjusted the model to fit their context. As well as including feedback from peers and more knowledgeable others, they also used self- and peer-evaluation forms. These aimed to actively engage the pre-service teachers in their own professional learning. Teacher-educators adjusted their communication style: they used praise and

encouragement instead of criticism to boost their students' confidence and help them overcome any potential fear of teaching. They also encouraged their teaching assistants and pre-service teachers to be encouraging and supportive of each other. One teacher-educator explained how PMLS had helped him 'to avoid conflicts' with his students, which enhanced the quality of their relationships. He learned to take a step back and to provide less direct instruction, which enabled pre-service teachers to take charge of their own learning.

Teacher-educators suggested that they would like to continue using PMLS not only to promote pre-service teachers' professional skills but also to foster their personal growth, develop their resilience and ability to handle confrontational situations and criticism, and engage confidently with other stakeholders, such as parents, managers and employers. They could see the potential of PMLS to design a more holistic teacher-training programme, with suitable adjustments involving defining roles more clearly within the group and devising simulation exercises to broaden the experience of pre-service teachers beyond the classroom. They also acknowledged the need to address specific challenges by helping pre-service teachers set clear objectives, incorporating individual lesson planning with group learning within PMLS, and providing more formal input and guidance on teaching microskills. Some of the key benefits and challenges were summarised by one of the teacher-educators from Shaanxi Normal University as in Figure 5.1:

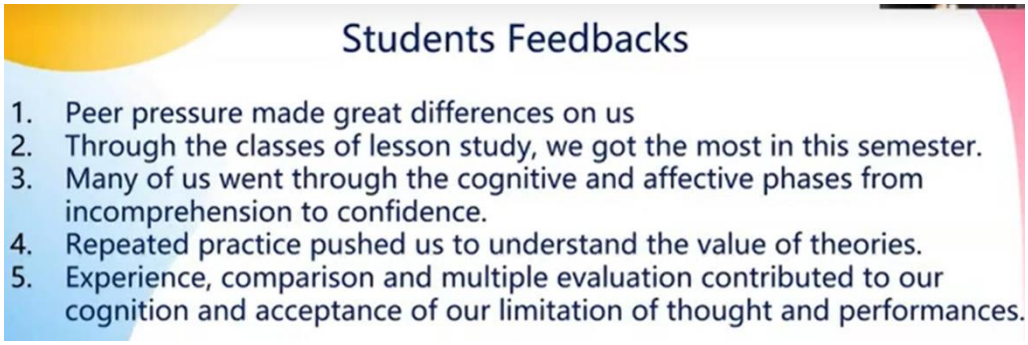


Figure 5.1: Summary of feedback on PMLS from pre-service teachers at Shaanxi Normal University

6. Discussion and recommendations

In the previous sections, we presented the findings of the research project. We will now consider how these relate to our research questions, before offering recommendations for future practice and research in this area.

Our project set out to address the following research questions:

- What impact does a PMLS approach have on the development of pre-service Chinese ELT teachers' professional knowledge and skills?
- To what extent does participation in PMLS foster confidence and a sense of professional identity for pre-service ELT teachers in China?

The findings show that for pre-service teachers, PMLS improved teaching skills, classroom ability, thinking like a teacher, confidence in doing the job, and understanding of learner responses and perspectives. Pre-service teachers also believed that their engagement in PMLS had impacted positively on their professional knowledge, identity and confidence, and that it is an effective approach for pre-service education. In this regard, the concept of 'self-efficacy' (Bandura, 1977), discussed in section 4.3 in regard to question 22, seems particularly relevant to the professional identity of pre-service teachers, as engagement in PMLS appeared to increase their sense of belief in their teaching capabilities. In the case of this study, PMLS sought to create a safe learning environment where pre-service teachers felt supported by peers, teacher-educators and knowledgeable others. As they tested out their teaching skills in collaboration with others, they felt sufficiently secure to take risks and to accept criticism in the knowledge that the responsibility was shared, as they had designed lessons jointly with peers. They also felt that they had greater control over and responsibility for their professional learning, a feature particularly stressed by one of the teacher-educators. In some cases, self-belief about their growing confidence as a teacher was reinforced by the formative feedback they received from both peers and teacher-educators. They were encouraged by the outcomes of their engagement in PMLS when their efforts were successful, and they believed that they then made more rapid progress.

The outcomes from this project suggest that collaboration in PMLS contributes to the growth of teachers' skills, confidence and commitment, with greater belief in their ability to engage in the complex skills of planning, teaching and evaluation. Despite the mostly positive evaluations noted above, brief responses, such as 'yes' or 'no', did feature in the open questionnaire questions, which limits a more nuanced understanding of potential impact. It would be interesting to find out why some of the pre-service teachers did not feel that PMLS had a specific, definable impact and why they did not expand upon their answers, whether positive or negative. In addition, collaboration, managing disagreements, authenticity, setting clear objectives and giving feedback were some of the main challenges that the pre-service teachers identified in the process.

Teacher-educators also reported a positive experience of engaging in PMLS, which, in some cases, was transformative:

> *Many thanks to our PMLS project. I believe all of our project members benefited mutually through the research and practice. Our contribution is still limited but it's a relief that many pre-service teachers have changed their confidence and self-identity towards constructive teaching and learner autonomy. If we keep researching and studying upgraded modes in language education collaboratively, more great teachers, course managers, faculty organizers, or even principals could be possibly developed and trained for our international teamwork and communication.* (Liming Ding email communication, 25/01/24)

The teacher-educators were keen to continue using PMLS in pre-service education to address the specific challenges that their pre-service teachers encountered, for example setting clear objectives, lesson design, classroom management, use of classroom language to manage learning, and approaches to classroom observation.

6.1 Summary of key findings

- PMLS was effectively implemented in each institution, with some variation due to contextual considerations.
- Pre-service teachers reported broad enthusiasm, despite some initial incomprehension and uncertainty. They completed questionnaires (N=105), and 90 per cent of respondents reported positive outcomes.
- They reported improved professional knowledge, teaching skills and confidence. They believed the project enabled them to think like a teacher and gain an enhanced sense of professional identity, citing affective factors such as joy, a sense of achievement, satisfaction and greater self-efficacy. Collaboration with peers inspired them to become better teachers and strengthened their commitment to the teaching profession.
- A small number of pre-service teachers commented on the inauthenticity of PMLS and would have preferred real practicum. Other challenges included managing disagreements and arriving at a consensus on what to focus on in research lessons, how to organise the lesson and how to give feedback on the quality of classroom learning.
- Teacher-educators were enthusiastic about the process and outcomes of PMLS. They reported that it had a transformative impact on their practice and they would continue using this model in future. They reported that PMLS improved collaboration, the quality of discussion, teaching skills, reflection and pre-service teachers' curriculum knowledge and knowledge of teaching standards. The process also fostered confidence, team spirit, motivation and passion for teaching.

- The teacher-educators claimed it was a major improvement on their previous use of microteaching.

6.2 Key benefits

Some of the key benefits identified include the following.

Enhanced collaboration skills: The small group planning, peer teaching and reflective evaluation discussions in PMLS fellowships facilitated meaningful interaction, teamwork and knowledge sharing among pre-service teachers.

Improved teaching competence: From teaching skills like lesson planning, classroom instruction, use of tools such as the blackboard to student-centred capabilities, including understanding learner needs, pre-service teachers gained tremendously from the authentic yet safe practice environment of PMLS.

Higher confidence and motivation levels: Practising lesson delivery among peers, receiving peer feedback, watching others teach and self-reflection boosted the self-belief and motivation of pre-service teachers to pursue teaching careers passionately.

Deeper professional identity: From collaboratively owning lesson design to taking the process seriously, PMLS aided pre-service teachers in gradually aligning their profile with that of professional educators.

Enhanced pedagogic content knowledge: The cycles of collaborative planning, research lesson delivery and critical reflection helped the participants analyse curriculum documents and teaching content and deepen their theoretical, curriculum and standards knowledge. This enhanced awareness improved their effectiveness in delivering the curriculum.

6.3 Some challenges

Some challenges were identified that related to both the PMLS and research process. For example, some teacher-educators commented on the lack of time to collect resources and to provide feedback in large groups. Pre-service teachers identified their struggles in applying theoretical knowledge to practice. In addition, the research team experienced some issues in sharing and uploading video material that formed part of the data sets. The PMLS courses were short, and it was acknowledged that pre-service teachers require a lot more classroom practice. However, the lack of time for practice is a contextual constraint that long precedes this research project.

7. Conclusions

This project was supported by the British Council UK–China EMaDA Research and Materials Development Awards, which have a twofold objective of aiming to promote UK–China collaborative research partnerships to support national educational priorities within areas of ELT in Chinese formal basic education, as well as developing materials to enhance English teacher CPD in China.

Our project fulfilled both objectives by:

1. implementing a research study to embed PMLS in initial teacher education programmes in three Chinese universities, which was highly successful and impactful
2. collaboratively developing an open access online platform that provides a wide range of multimedia content and resources to support teachers and teacher-educators who are interested in exploring and implementing a PMLS or lesson study approach to enhance English language teaching. The output platform aims to cater to varied levels of understanding of lesson studies, from those new to the concept to experienced practitioners.

Specifically, our project focused on the limited opportunities for pre-service teachers to gain practical classroom ELT experience during their university courses and explored the use of PMLS to help mitigate this. The development of the online platform also aims to contribute more broadly to enhancing and supporting the professional development of English language teachers, drawing on the affordances of EdTech to provide content-rich, reusable resources.

Another important aspect of the project was dissemination of activities and findings. Steps have already been taken to ensure this through presentations at two high-profile international conferences: the World Association of Lesson Study (WALS), which was held in Zwolle, the Netherlands (27–30 November 2023), and the IATEFL conference, which took place in Brighton, UK (16–19 April 2024). In addition, four members of the project team presented at a British Council China online sharing event that was attended by over 700 colleagues in China.

7.1 Recommendations

Looking forward, we suggest the following points for consideration.

- Where possible, we recommend the inclusion of school-based teaching practice, but if this is not possible, we endorse the use of PMLS as an effective vehicle for the development of pre-service teachers' expertise and confidence.

- PMLS needs to be adapted to fit the educational context, taking into account class sizes and learner profiles.
- To resolve challenges, we recommend greater input on how to observe teaching and learning, and ways of giving feedback.
- Greater attention should be given to the role of exploratory talk to manage effective collaboration in the PMLS process.
- Pre-service teachers also require support in classroom management and overcoming nervousness.
- We recommend the use of the open-access resources developed by the project team to support the implementation of PMLS and dissemination of its impact to a wider audience of teachers and teacher-educators.
- We recommend further collaborations supporting the training of pre-service English language teachers between the UK and China to generate both insightful and nationally relevant research.
- Support preparation for English teaching more widely by improving pre-service teachers' pedagogic content knowledge in line with the Chinese government's priority to support schools in less developed areas, possibly by providing alternative forms of access to the materials, for example in PDF form to facilitate and widen access to those providers of teacher education in rural areas.
- The reach and impact of the project can also potentially be extended by the pre-service ELT teachers – a proportion of whom are likely to come from rural areas in China – introducing the lesson study resources in their respective schools.
- Contribute to embedding sustainable and cost-effective CPD drawing on EdTech and digital solutions for English teacher training, in the form of lesson study and the development of a Moodle platform readily accessible to new and practising teachers.
- Promote PMLS for continuing teacher development. Practising, in-service teachers can benefit from undertaking collaborative lesson planning, peer observation and enquiry-based approaches facilitated by PMLS.
- Lesson study is also effective in exploring the teaching of skills as well as language, such as those expected under the umbrella of 21st-century skills/core competencies and how these can be integrated into English curricula in teacher education settings.

This collaboration has benefited both partners, expanding their mutual understanding of pre-service teacher development through the vehicle of an adapted form of lesson study (PMLS). The evidence collected strongly suggests that this enhanced the quality of English language teaching preparation in the three participating institutions. There is clear potential to broaden the impact for initial and in-service professional development at regional and national levels in China, for which this project could serve as a model.

References

Baldry, F. & Foster, C. (2020) Lesson study in initial teacher education: Principles and practices. In P. Wood et al. (eds), *Lesson study in initial teacher education: Principles and practices* (147–160). Bingley, Emerald.

Bandura, A. (1977) Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84(2), 191–215.

Bocala, C. (2015) From experience to expertise: The development of teachers' learning in lesson study. *Journal of Teacher Education*, 66(4), 349–362.

Braun V. & Clarke V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. www.QualResearchPsych.com

Budi Suryani, F. & Rismiyanto, R. (2018) Peer and real student microteaching: The EFL student teachers' perception. In *Proceedings of the 1st Bandung English Language Teaching International Conference* (BELTIC 2018) – *Developing ELT in the 21st Century*, 434–438.

Cajkler, W., Wood, P., Norton, J. & Pedder, D. (2013) Lesson study: Towards a collaborative approach to learning in initial teacher education. *Cambridge Journal of Education*, 43(4), 537–554.

Cajkler, W. & Wood, P. (2015) Lesson study in initial teacher education. In P. Dudley (ed.), *Lesson study: Professional learning for our time* (107–127). London, Routledge.

Cajkler, W. & Wood, P. (2016a) Adapting 'lesson study' to investigate classroom pedagogy in initial teacher education: What student-teachers think. *Cambridge Journal of Education*, 46(1), 1–18.

Cajkler, W. & Wood, P. (2016b) Mentors and student-teachers 'lesson studying' in initial teacher education. *International Journal for Lesson and Learning Studies*, 5(2), 1–18.

Cajkler, W. & Wood, P. (2016c) Lesson study and pedagogic literacy in initial teacher education: Challenging reductive models. *British Journal of Educational Studies*, 64(4), 503–521.

Chassels, C. & Melville, W. (2009) Collaborative, reflective, and iterative Japanese lesson study in an initial teacher education program: Benefits and challenges. *Canadian Journal of Education*, 32(4), 734–763.

Cohen, L., Manion, L. & Morrison, K. (2017) *Approaches to quantitative analysis.* London, Routledge.

Dudley, P. (2014; 2019) *Lesson study handbook*. Lesson Study UK: https://lessonstudy.co.uk/.

Dudley, P. (ed.) (2015) *Professional learning of our time*. Routledge, London.

Dudley, P., Xu, H., Vermunt, J.D. & Lang, J. (2019) Empirical evidence of the impact of lesson study on students' achievement, teachers' professional learning and on institutional and system evolution. *European Journal of Education*, 54(2), 202–217.

Fernández, M.L. (2005) Learning through microteaching lesson study in teacher preparation. *Action in Teacher Education*, 26(4), 37–47.

Fernández, M.L. (2010) Investigating how and what prospective teachers learn through microteaching lesson study. *Teaching and Teacher Education*, 26, 351–362.

Griffiths, J. (2016) Bridging the school placement gap with peer micro-teaching lesson study. *International Journal for Lesson and Learning Studies*, 5(3), 227–238.

Helgevold, N., Næsheim-Bjørkvik, G. & Østrem, S. (2015) Key focus areas and use of tools in mentoring conversations during internship in initial teacher education. *Teaching and Teacher Education*, 49, 128–137.

Hiebert, J. & Stigler, J.W. (2000) A proposal for improving classroom teaching: Lessons from the TIMSS video study. *The Elementary School Journal*, 101(1), 3–20. http://www.jstor.org/stable/1002332

Kusanagi, K.N. (2021) Historical development of lesson study in Japan. *Oxford Research Encyclopaedia of Education.* Available at: https://oxfordre.com/education/display/10.1093/acrefore/9780190264093.001.0001/acrefore-9780190264093-e-1216#:~:text=Educational%20History-,Introducti

Larssen, D., Cajkler, W., Mosvold, R., Bjuland, R., Helgevold, N., Fauskanger, J., Wood, P., Baldry, F., Jakobsen, A., Bugge, H.E., Næsheim-Bjørkvik, G. & Norton, J. (2018) A literature review of lesson study in initial teacher education: Perspectives about learning and observation. *International Journal for Lesson and Learning Studies*, 7, 8–22.

Leavy, A.M. & Hourigan, M. (2016) Using lesson study to support knowledge development in initial teacher education: Insights from early number classrooms. *Teaching and Teacher Education*, 57, 161–175.

Lewis, C. (2002) *Lesson study: A handbook of teacher-led instructional change.* Philadelphia: Research for Better Schools, Inc.

Lewis, C.C., Perry, R.R. & Hurd, J. (2009) Improving mathematics instruction through lesson study: A theoretical model and North American case. *Journal of Mathematics Teacher Education*, 12, 285–304.

Lewis, C. & Perry, R. (2017) Lesson study to scale up research-based knowledge: A randomized, controlled trial of fractions learning. *Journal for Research in Mathematics Education*, 48(3), 261–299.

Munthe, E., Bjuland, R. & Helgevold, N. (2016) Lesson study in field practice: A time lagged experiment in initial teacher education in Norway. *International Journal for Lesson and Learning Studies*, 5(2), 142–154.

Murata, A. & Takahashi, A. (2002) *Vehicle to connect theory, research, and practice: How teacher thinking changes in district-level lesson study in Japan.* ERIC/CSMEE Publications.

Norton, J., Helgevold, N. & Bjuland, R. (2020) The role of collaborative planning: How to use joint planning as a learning process in lesson study. In P. Wood et al. (eds), *Lesson study in initial teacher education: Principles and practices.* Bingley, Emerald Publishing.

Remesh A. (2013) Microteaching, an efficient technique for learning effective teaching. *Journal Res Med Science*, 18(2), 158–163.

Robinson, V., Hohepa, M. & Lloyd, C. (2009) *School leadership and student outcomes: Identifying what works and why best evidence synthesis.* Auckland: New Zealand Ministry of Education.

Shulman, L.S. (1986) Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.

Sims, L. & Walsh, D. (2009) Lesson study with preservice teachers: Lessons from lessons. *Teaching and Teacher Education*, 25(5), 724–733.

Stigler, J. & Hiebert, J. (1999) *The teaching gap: Best ideas from the world's teachers for improving education in the classroom*. New York: The Free Press.

Tsui, A.B.M. & Law, D.Y.K. (2007) Learning as boundary-crossing in school–university partnerships. *Teaching and Teacher Education*, 23, 1289–1301.

Wang-Iverson, P. & Yoshida, M. (2005) *Building our understanding of lesson study.* Philadelphia, PA: Research for Better Schools.

Wood, P., Larssen, D.L.S, Helgevold, N. & Cajkler, W. (eds) (2020) *Lesson study in initial teacher education: Principles and practices.* Bingley, Emerald.

Xu, H. (2020) Lesson study as evidence-based teacher collaboration and enquiry. In V. Poultney (ed.), *Professional learning communities and teacher enquiry* (55–69). Critical Publishing.

Xu, H. & Pedder, D. (2014) Lesson study: An international literature review. In P. Dudley (ed.), *Lesson study: Professional learning for our time* (29–58). London: Routledge.

Zhou, G. & Xu, J. (2017) Microteaching lesson study: An approach to prepare teacher candidates to teach science through inquiry. *International Journal of Education in Mathematics, Science and Technology*, 5(3), 235–247.

Appendices

Appendix 1

Pre-service teacher questionnaire (English version)

PART 1: About you

1. What is your gender? Female Male
2. Which type of school do you plan to teach at after your teacher education programme? Please select:
   Primary school/Junior high school/Senior high school/Other
3. Where do you plan to teach after your teacher education programme? Please select:
   A rural school/ An urban school
4. Why would you like to teach in this type of school? Please explain:

PART 2: Your PMLS activities

5. Which topic(s) did you focus on when planning the research lesson?

6. How many members were in your PMLS group?

7. Did you plan a research lesson with others or alone? Please select:
   With others / Alone / Both
8. Did you teach a research lesson or part of a research lesson? Please select: Yes / No
9. Did you act as an observer in a research lesson taught by one of your colleagues? Please select: Yes / No

Part 3: What you think about PMLS

In the next section, please indicate your level of agreement/disagreement, by ticking in one box (only) below.

1 strongly disagree 2 disagree 3 neither agree/disagree 4 agree 5 strongly agree

		1	2	3	4	5
10.	I learned a lot about how learners think by working with other pre-service teachers in peer microteaching lesson study (PMLS) groups.					
11.	Participating in PMLS did not improve my understanding of students' learning.					
12.	Participating in PMLS has improved my classroom teaching ability.					
13.	Planning with others improved my own lesson planning skills.					

14.	Discussion in planning meetings focused on identifying objectives and suitable activities.					
15.	Collaborative evaluation after research lessons helped me to think more like a teacher than before.					
16.	Discussion in evaluation meetings improved my understanding of teaching and learning.					
17.	Confidence in my classroom management skills has increased since I did PMLS.					
18.	My ability to understand what was going on in the classroom did not significantly develop through my work in the PMLS project.					
19.	PMLS provided a useful vehicle for me to reflect on my professional identity as a teacher.					

Please write your responses to the following open questions.
20. Did PMLS improve your teaching?

21. If so, how? What are the two most significant challenges that you faced in engaging in PMLS?

22. Has PMLS had an impact on your professional identity as a teacher? If so, how? Please give examples.

Thank you for completing this questionnaire.

Appendix 2

Interview schedule for teacher-educators

1. Please could you share your thoughts about your involvement in the EMaDA project. How do you feel about it all? What do you think has worked well? Were there any challenges?
2. How different was PMLS compared to your approach in the past? How similar?
3. What was the biggest surprise for you now that you can look back on the work you have done?
4. Was there anything within the structure of PMLS that you found helpful (e.g. research lessons, case pupils, collaboration, etc.)?
5. How did you feel your pre-service teachers worked together? Did they feel comfortable about expressing their own ideas? Were they open to suggestions? Were you happy with the final decisions they made about the content of their lessons?
6. What could be the next step? Would you use it again? Adapt it in any ways?
7. What do you know now that you did not know before?
8. How did you find using the Moodle platform?
9. Could the platform and resources be useful in the future to provide support for pre-service teachers or CPD for in-service teachers across China?
10. Would there be any particular benefits for teachers working in rural areas?