

Professional Development through Lesson Study: A Practical Model to Refine Teaching, Learning and Teacher Practice Knowledge

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ABSTRACT

The lesson study model which was first introduced in Japan has since been gaining popularity across the globe and has emerged as catalyst for professional development among teachers. This study aims to describe the impact of adopting lesson study model on undergraduate English lecturers from a private university in Kuala Lumpur and a public university in Terengganu. This article serves the particular purposes of addressing lecturers' perception on lesson study model as mean of improving professional development and how it affects the teaching and learning processes through collaborative research lesson. This study employs a collaborative action research design through qualitative study by employing observations and interviews. The findings of the study are essential in providing an insight to lecturers to improve the effectiveness of their teaching practice as part of their professional development apart from maintaining collaborative and cooperative teamwork among lecturers.

Keywords:

lesson study; professional development;
teacher knowledge; research lesson;
collaborative

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1. Introduction

In Japan, lesson study is a teaching tradition dated back for centuries. The term Lesson Study was introduced by Makoto Yoshida, an expert in this field [3]. It is derived from the Japanese word "*Jugyokenkyu*" which means teaching ("*Jugyo*") and study ("*Kenkyu*"). Features of lesson study have contributed to the growth of teachers' knowledge about the importance of collaborative discussion and improvements. Lesson study has become a culture in Japan and the most popular community group in Japan is the one set up within the school itself, with *Kaizen* (improvement or change for better) being its core process, where teachers engage in mutual learning to share ideas and improve their teaching quality (NASEM 2011). Apart from that, "...teaching experience and learning process could help build an effective learning atmosphere for the students." [22]. However, although numerous efforts in the adaptations of lesson study model were put forth in other countries, the model is still under-theorized and its applications are limited. Elliot [2] pointed out that lesson study has established a strong foundation in Japan with its shared knowledge being constructed, but often

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the pedagogical theories are still vague. This study is aimed at investigating the impact of adopting lesson study model on undergraduate English lecturers from a private university in Kuala Lumpur and a public university in Terengganu. The specific objectives of the study were designed based on the Kemmis & McTaggart [7] research cycle phases which are to (a) plan the lessons to be taught through lesson study model (b) act by maintaining collaborative and cooperative teamwork among teachers, (c) observe how it affects the teaching and learning processes through collaborative research lesson, and (d) reflect on the lecturers' perception on lesson study model and its effectiveness on the teaching practice as part of their professional development.

2. Literature Review

Lesson study involves a group of teachers or academics who frequently meet up to discuss and exchange opinions and ideas over a period of time for the purpose of designing, applying, testing, and improving one or several research lessons. It is regarded as a professional practice that serves as a platform for continuous improvement for teachers' content knowledge and exposes teachers to various pedagogical approaches [11,15,18]. Lesson study can be executed in the existing class of the teacher with the students ensuring that it is (a) focused on a particular issue or problem, objective or specific pedagogical goal that has been identified, (b) well-planned and teamed up with other teachers, (c) observed by other teachers in the group during teaching and learning session, (d) recorded for analysis and reflections, and (e) discussed with the other teachers in the lesson study group, other teachers outside the group or external experts [9].

Lesson study model employs collaborative elements among educators and not individually in the effort of enhancing professional development of academicians. Japanese teachers emphasize on the research lesson concept to uphold academic excellence and teaching achievements on individuals from school level to national level [10]. The collaborative phases of lesson study model in Japan involves eight stages that are (1) to identify and to analyze issues, (2) to plan on the lesson, (3) to teach and to observe the teaching and learning process, (4) to evaluate and to reflect upon the lesson, (5) to review and to revise on the lesson plan, (6) to re-teach and to re-observe the revised and reviewed lesson, (7) to re-evaluate and to reflect again on the lesson for the second time, and (8) to share the findings and results with the other lecturers [16], as illustrated in Figure 1.

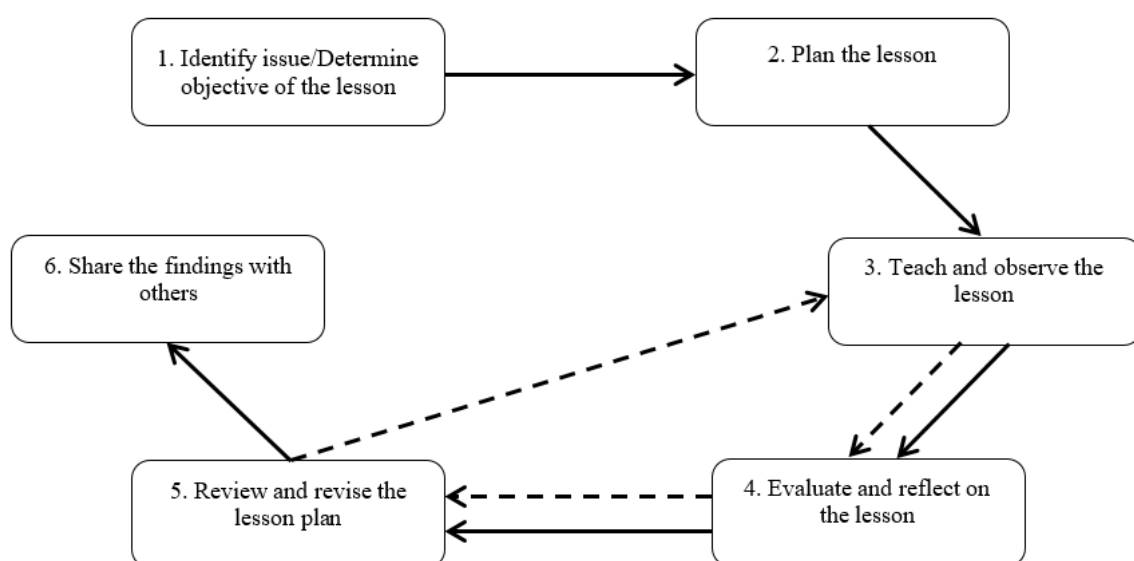


Fig. 1. Cycle of lesson study

These processes require continuous effort and collaborative teamwork from teachers involved to share knowledge, thoughts and conclusions over a research lesson. Though these procedures demand huge commitments and time of all the teachers involved, they act as a catalyst that promotes teachers to evaluate and to reflect on their teachings for the benefit of the lessons.

Moreover, applications of lesson study model in Australia on mathematical learning revealed that lesson study provides opportunities for critical feedbacks and constructive comments [5, 6,13,19,20]. In Malaysia, lesson study model is relatively new, with its first introduction in 2011 involving 289 schools [14], with research lessons mostly covering the subjects of sciences, mathematics and chemistry [17]. According to Zanaton, *et al.*, [22] in her analysis of comparison of lesson study in Japan and Malaysia, she highlighted that there were several challenges and problems faced by the Malaysian teachers trying to implement lesson study model since it is rather new in Malaysia, as compared to its neighbouring countries such as Singapore and Indonesia. Similarly, Lee *et al.*, [8] in his research revealed that;

“...”

...repeated patterns in interactions that can be associated with practices that led to disturbances in teacher learning. Learning practices that produced disturbances to teacher learning in the context of Lesson Study were *focus on logistical issues, rushed discussions, and struggles in note-taking*” (p. 9).

3. Methodology

For the purpose of this study, the target group of research participants for primary group category are five English lecturers from the Jabatan Mata Pelajaran Umum in a private university in Kuala Lumpur and three senior English lecturers from Akademi Pengajian Bahasa in a public university in Terengganu while the undergraduate students from different programmes and under several faculties undertaking English subjects for the current semester were chosen as the complementary group research participants. Data were collected over a span of one academic trimester while the lecturers were grouped according to the educational institutions they attached to and they were provided with approximately 1-hour meeting slots on a weekly basis.

Table 1
Profile of Teachers

Group A	Teaching Experience (At time of interview)	Group B	Teaching Experience (At time of interview)
Teacher A1	6 years	Teacher B1	12 years
Teacher A2	2 years	Teacher B2	10 years
Teacher A3	5 years	Teacher B3	7 years
Teacher A4	2 years		
Teacher A5	8 months		

Model of lesson study was chosen to be the innovation for the research. Lesson study models were applied by lecturers in the lecture and tutorial sessions as an intervention act to improve teaching and learning apart from observing and monitoring the progress of the students through collaborative phases.

Ethnographic tools were employed for the purpose of this research such as teacher observation in a naturalistic setting as it forms an integral part of the study, and collection of data was supplemented with interviews with teachers. Artifacts generated from the meetings such as notes of

the meetings, minutes of the meetings, lesson plans and reflection notes from teachers were also analyzed. The meet-ups were also video-recorded.

This study employs a collaborative action research design through qualitative study by employing observations in classes and interviews with the lecturers in the group. Discussions during the final stage of the research lesson cycle serve as a medium for teachers to share thoughts, opinions and feedbacks. Alternatively, the teachers' reflections would provide useful insights to refine their teaching and teacher practice knowledge which would eventually lead to the enhancement in their professional development and career growth.

4. Results and Discussion

4.1 PRE (Identify Issue & Lesson Planning Stage)

The participants first set up a meeting to discuss how Lesson Study will be done accordingly. They discussed on the issues that they have in teaching, the scheduling, and also writing up the lesson plan specifically designed for this purpose (during observation periods). The participants highlighted several problems that they encountered with students, which include encouraging the students to speak up, how to make them feel that the teachers are approachable and to be more receptive in their learning. Other problems include making the learning more enjoyable and not to become dull in their teaching, as well as improving their skills in teaching. The participants highlighted on some issues that might arise during the implementation of this method in class. They mentioned that they would expect some level of uneasiness on the part of the students because there would be 'an outsider' in their class. However, they expected this to be a very minor issue and would only require little time to settle. On the part of the participants themselves, they acknowledged that they need to be more open in the observation, and to keep the teaching and learning process in a naturalistic setting as much as possible, without jeopardizing the objectives of the lesson.

4.2 WHILE (Teaching & Observation Stage)

In this stage the observation actively took place. The observing teachers gathered as many information as possible from what they see and feel. Both the primary subject (the teacher) and complementary subjects (the students) were observed. Depending on availability and preference, the observers collect all the information in written form, taking photos, recorded the teaching and learning using mobile phone camera and also audio recording their notes using recording apps. The observer did not interfere the teaching and learning as it progressed. The observer was not part of the active teaching process during the class, but the observer was not restricted in terms of their movement. Most of the observers remained seated at the back of the class, and few others did walk around (to take photos/ to record the session) but maintained their limit and distance to avoid interrupting the process of teaching and learning that was taking place. This was also to ensure that the class, especially the students not to feel distracted by his/her presence, and to keep the setting in a most natural setting as possible. The observer gave more attention to how the teacher managed the teaching and the students by the way the teacher responded to students' questions, the methods used to deliver the lesson, and also how the teacher addressed the students' need at that particular time. The observer also kept aware of students' responses and participation in the class and included this comment as part of their remarks.

4.3 POST (Reflection, Evaluation & Discussion Stage)

Once the teaching and learning process in class is done, the observers and the model teachers (primary subjects being observed) gathered to discuss. In the discussion, all of them shared their self-reflections that have been noted down or recorded during the observation. This discussion is usually started by the model teachers who shared what they feel throughout the teaching and learning process from the beginning of the lesson until the end. They assessed themselves through what has been achieved in the class, their students' responses and participation, students' understanding of the subject matter being taught in class, and their own approach to address students' expectations towards the subject and the teacher, how they handle and monitor the class and whether they have likely to achieve the intended outcomes from the particular lesson. The model teachers freely and openly shared what they thought and what they feel, and also what they think would benefit more if they were to do in a different way (so as to suggest that it would be much more helpful and beneficial to the teaching and learning process). Any additional reflections were also jotted down during this stage for the purpose of improvement and future reference. This is followed by the observers who then shared their notes, their recorded information during the whole process in observation stage and also their opinion and suggestion. These sharing and discussion sessions were done in a constructive and positive environment, more towards neutral, natural and informal approach rather than those considered as formal reporting. Yet, they maintained professionalism and kept the discussion always on its right track. In a few sessions when the time allowed, some of the observers managed to show their recorded information while observing, in example the photos taken in class during the teaching and learning earlier to provide evidence to support their reflections. This encouraged further positive improvement on any drawback or simply as appreciation that would stimulate more enhancement and encouragement. The same thing been done afterwards where any additional information communicated in this discussion were noted for the purpose of improvement and future reference.

From the gathered data which include recorded tapes (of the interviews, meet ups, actual classroom teaching and learning sessions) and notes (reflection, observation), it is found that both the observed teachers and observers were struggling to adapt to this Lesson Study method at the initial phase of the implementation. Phrases such as *"I feel a little uneasy to teach as I am being watched"*, *"It is hard to act normal when somebody is watching/assessing"*, and *"It is hard to maintain 'invisibility' while observing"* were mentioned in the gathered data. These comments suggest that they were struggling to get used to this method. This is especially so when the two sides (observers and ones being observed) are friends and had to comment openly on one another, had to keep minimum engagement to avoid any interruptions or rigidity during teaching and learning session, and also had to tackle the students, encourage them to participate actively in lesson, and the model teachers also had to remind the students to disregard the observer at the back of their classroom. However, after few sessions they started to get used to the method and more open in their comments and responses. During the interview, some of them told that after a few sessions they became more accustomed with the setting, they (specifically pointing out to their students) could easily ignore the observers while the observation process is taking place. It was also mentioned in their reflections whereby they wrote that they could see some changes in terms of their students' participation which no longer being too rigid or too self-cautious when communicating with/responding to the teacher. They also wrote that they gained more confidence in teaching, knowing that the observations made them realize there are some aspects that could be improved in their teaching where otherwise they have little idea of before the Lesson Study was executed. They noted that they learnt many things (positive and negative aspects) from each other. They were more perceptive and critical in their comments. However, they also mentioned that the Lesson Plan

method was difficult to get used to and been familiarized in a normal class because they believed they took a long time to be able to make the students adapt to this observation periods. They further noted that 'more time and effort were put only to get used to the observation than to teach the students.

5. Conclusion

The Lesson Study method has given many inputs to diversify teachers' approaches in their teaching and learning sessions. It also further expands their knowledge in subject-matter when they learnt from their observation partners where they were reminded of some mistakes, or some information that they missed out. This method is also useful to them as to encourage more confidence in teaching and to further develop their skills in teaching. It helps by making reflection on themselves, their partners and therefore become more aware of their own progress in professional development. It also made them realize the importance of keeping themselves on track with their career development by pursuing professionalism in teaching and learning practice.

While the implementation focused on professional development of teachers in improving the quality of teaching, learning, and practice in class, this method is still considered as unfamiliar and challenging by overall perception. The openness of both the observed groups and the observers to adapt to this method is limited. There are significant differences in terms of its execution process but nevertheless produced results that are slightly similar. Further studies on the part of the students are recommended to be carried out to gain more insights on the level of comprehensive effectiveness of Lesson Study, and also studies on comparison between different institutions in implementing this method for professional development.

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References

- [1] Dudley, P. (2011). Lesson study: a handbook. Retrieved 27 November 2019 from https://lessonstudy.co.uk/wp-content/uploads/2012/03/Lesson_Study_Handbook_-_011011-1.pdf
- [2] Elliott, John. "Developing a science of teaching through lesson study." *International Journal for Lesson and Learning Studies* (2012). <https://doi.org/10.1108/20468251211224163>
- [3] Fernandez, Clea, and Makoto Yoshida. *Lesson study: A Japanese approach to improving mathematics teaching and learning*. Routledge, 2012. <https://doi.org/10.4324/9781410610867>
- [4] Grimsæth, Gerd, and Bjørg Oddrun Hallås. "Lesson study model: The challenge of transforming a global idea into local practice." *Policy Futures in Education* 14, no. 1 (2015): 109-122. <https://doi.org/10.1177/1478210315612649>
- [5] Groves, Susie, Brian Doig, Wanty Widjaja, David Garner, and Kathryn Palmer. "Implementing Japanese lesson study: An example of teacher-researcher collaboration." *Australian mathematics teacher* 69, no. 3 (2013): 10-17.
- [6] Hollingsworth, Hilary, and Delwyn Oliver. "Lesson study: A professional learning model that actually makes a difference." In *Mathematics—Celebrating achievement: 2005 MAV conference*, pp. 168-175. Melbourne: The Mathematical Association of Victoria (MAV), 2005.
- [7] Kemmis, Stephen, Robin McTaggart, and Rhonda Nixon. *The action research planner: Doing critical participatory action research*. Springer Science & Business Media, 2013. <https://doi.org/10.1007/978-981-4560-67-2>
- [8] Lee, Lai Har Judy, and Seng Chee Tan. "Teacher learning in Lesson Study: Affordances, disturbances, contradictions, and implications." *Teaching and Teacher Education* 89 (2020): 102986.

- <https://doi.org/10.1016/j.tate.2019.102986>
- [9] Lewis, Catherine. "A lesson is like a swiftly flowing river: Research lessons and the improvement of Japanese education." *American Educator* 14 (1998): 50-52.
- [10] Lewis, Catherine. "Lesson Study: The Core of Japanese Professional Development." (2000).
- [11] Murata, Aki. "Introduction: Conceptual overview of lesson study." In *Lesson study research and practice in mathematics education*, pp. 1-12. Springer, Dordrecht, 2011.
https://doi.org/10.1007/978-90-481-9941-9_1
- [12] National Association for the Study of Educational Methods. 2011. *Lesson Study in Japan*. Japan: Keisuisha.
- [13] Pierce, Robyn, and Kaye Stacey. "Lesson Study for Professional Development and Research." *Journal of Science and Mathematics Education in Southeast Asia* 34, no. 1 (2011): 26-46.
- [14] Roback, Paul, Beth Chance, Julie Legler, and Tom Moore. "Applying Japanese lesson study principles to an upper-level undergraduate statistics course." *Journal of Statistics Education* 14, no. 2 (2006).
<https://doi.org/10.1080/10691898.2006.11910580>
- [15] Shimizu, Y. O. S. H. I. N. O. R. I. "Participating in lesson study to share new visions and immutable values: A Japanese approach to lifelong development of mathematics teachers." In *Mathematics: Launching futures, Proceedings of the 24th Biennial Conference of the Australian Association of Mathematics Teachers*, pp. 22-35. 2013.
- [16] Stigler, J., & Hiebert, J., (1999). *The teaching gap*. New York: The Free Press.
- [17] Sulaiman, Maryam, Zurida Haji Ismail, Azrilah Abdul Aziz, and Azami Zaharim. "Lesson study: Assessing pre-service teacher's performance of teaching chemistry." In *2011 3rd International Congress on Engineering Education (ICEED)*, pp. 208-213. IEEE, 2011.
<https://doi.org/10.1109/ICEED.2011.6235391>
- [18] Takahashi, Akihiko, and Makoto Yoshida. "Lesson-study communities." *Teaching children mathematics* 10, no. 9 (2004): 436-437.
- [19] Widjaja, Wanty, and Colleen Vale. "Deepening teachers' understanding of content and students' thinking: a case study of Japanese lesson study in Australian primary classrooms." In *East Asia Regional Conference on Mathematics Education 2013*, pp. 266-275. Center for Research in Mathematics Education, 2013.
- [20] Widjaja, Wanty, Colleen Vale, Susie Groves, and Brian Doig. "Teachers' professional growth through engagement with lesson study." *Journal of Mathematics Teacher Education* 20, no. 4 (2017): 357-383.
<https://doi.org/10.1007/s10857-015-9341-8>
- [21] Yoshida, Makoto. "Lesson study [Jugyokenkyu] in elementary school mathematics in Japan: A case study." In *1999, April, Paper presented at the American Educational Research Association Annual Meeting, Montreal, Canada*. 1999.
- [22] Iksan, Zanaton Hj, Siti Nor Aishah Mohd Nor, Siti Nordiyana Mahmud, and Effandi Zakaria. "Applying the principle of" Lesson study" in teaching science." *Asian Social Science* 10, no. 4 (2014): 108.
<https://doi.org/10.5539/ass.v10n4p108>