

# PROMOTING ENGLISH TEACHERS' PROFESSIONAL DEVELOPMENT (TPD) THROUGH THE PRACTICE OF LESSON STUDY

Yanuarti Apsari; Isry Laila Syathroh; Rissa San Rizqiya

(English Education Study Program of STKIP Siliwangi Bandung/ yanuar.apsari1@gmail.com)

## Abstract

This paper sheds some lights on the practice of lesson study conducted in higher education level in relations to teacher professional development. This study employed an explorative research design which involved a team of three English teachers of STKIP Siliwangi and one class of English Department. The team was involved in jointly designing, teaching, researching, refining a research lesson. The research was conducted in three cycles, in which each cycle was evaluated. The data were collected through two instruments: classroom observation and teachers' reflective notes. The result revealed that the practice of lesson study can create multiple pathways for teaching improvement, especially in terms of collaborative activities done by teachers involved in the lesson study team. The result also revealed that the practice of lesson study the practice of lesson study can improve not only students' academic skills, but also students' social skills.

## Keywords:

Lesson Study, Teacher Professional Development (TPD)

## A. Introduction

Teacher Professional Development (TPD) is one of essential features in the field of teaching profession. It all is about teacher learning, learning how to learn, and transforming teachers' knowledge into practice for the benefits' of students' growth.<sup>1</sup> Lesson study is one of the strategies in improving the quality of teacher profession since it can improve

the quality of teaching practice. It was also claimed that lesson study is a form of actual classroom practice which can be a highly powerful means of fostering effective teachers.<sup>2</sup>

Lesson study is a strategy of a teaching improvement and knowledge building process. The teachers work in a team to plan, teach, observe, analyze and refine the lesson. In Indonesia, the

---

<sup>1</sup> Beatrice Avalos, "Teacher Professional Development in Teaching and Teacher Education over Ten Years," *Teaching and Teacher Education* 27, no. 1 (January 2011): 1, <https://doi.org/10.1016/j.tate.2010.08.007>.

---

<sup>2</sup> Clea Fernandez, Joanna Cannon, and Sonal Chokshi, "A US–Japan Lesson Study Collaboration Reveals Critical Lenses for Examining Practice," *Teaching and Teacher Education* 19, no. 2 (February 2003): 19, [https://doi.org/10.1016/S0742-051X\(02\)00102-6](https://doi.org/10.1016/S0742-051X(02)00102-6).

practice of lesson study has been developed since 1998 through the project of Indonesia Mathematics and Science Teacher Education Project (IMSTEP) in three universities: Indonesia University of Education (UPI), State University of Yogyakarta (UNY) and State University of Malang (UNM) funded by Japan International Cooperation Agency (JICA).<sup>3</sup> At first, the aim of this lesson study practice was to improve the quality of Mathematics and Science Education in Indonesia. However, during its development, the practice of lesson study has been adopted in all subjects, including the teaching learning process of English.

This research filled the gap by elaborating how the practice of lesson study implemented in higher education level and how it affects English teachers' professional development (TPD). In line with the two purposes of the research above, two research questions were posed: 1) How is the practice of lesson study implemented in the STKIP Siliwangi? 2) How can the practice of lesson study promote English teacher professional development (TPD)?

---

<sup>3</sup> Wriiten by isti fajar, "PERKEMBANGAN LESSON STUDY DI INDONESIA," accessed November 23, 2017, <http://istifajar.blogspot.com/2012/09/perkembangan-lesson-study-di-indonesia.html>.

## B. Literature Review

### 1. Principles of Lesson Study and Teacher Professional Development

Lesson study is one of strategies used in improving teacher professional development (TPD). Lesson study is a comprehensive and well-articulated process for examining practice<sup>4</sup>. In its practical level, lesson study encourages teachers to reflect their teaching practices through cyclical process of collaborative steps, namely: lesson planning, lesson observation and examination of student learning.

The theoretical perspective underpinning the lesson study practice is the situated learning theory by Lave and Wenger. Situated learning theory claims that learning is situated in the specific activity and is embedded within a particular context and culture. In the practice of lesson study, learning process exists when teachers collaborating the lessons and exchange ideas for the best teaching practice in the class.

### 2. Steps in Lesson Study

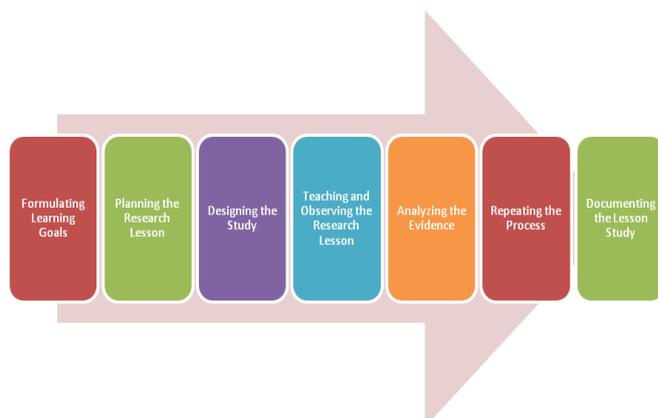
Even though the practice of lesson study was originally conducted in elementary education levels, Cerbin and Kopp<sup>5</sup> have proposed a model of lesson study practice to be conducted in higher

---

<sup>4</sup> Ibid.

<sup>5</sup>William Cerbin and Bryan Kopp, "Lesson Study as a Model for Building Pedagogical Knowledge and Improving Teaching.," *International Journal of Teaching and Learning in Higher Education* 18, no. 3 (2006): 3.

education. The process can be seen in the figure 1 below:



**Figure 1: A Model of Lesson Study in Higher Education<sup>6</sup>**

In the first step (formulating learning goals), teachers form a team which usually consists of three to six teachers from the same field. The process is begun from selecting a course, a topic to teach and educational objectives. The goals can be in the forms of two: general objective and specific objective. In the second step (Planning the research lesson), teachers collaboratively design the lesson plan. They can create their own new lesson plan or modify the old with some adaptations to the context needed. In the third step (designing the study), teachers collaboratively plan about how to investigate the students' learning. Teachers can also decide what learning evidence (data) to be observed during the practice of lesson study. In the fourth step (teaching and observing the

research lesson), teachers start to teach the planned lesson on the scheduled time. One teacher from the team teaches the lesson and the other team members observe and collect the data using the observer form (see appendix 1 for details). In the fifth step (analyzing the data/ learning evidence), teachers discuss how the teaching and learning process has been conducted referring to the learning evidence found during the observation. Teachers share their ideas and examine the evidence to find solution which may reveal important insights into the improvement of teaching and learning quality (see appendix 2 for the example). In the sixth step (repeating the process), the team conducts teaching and learning process based on the revised lesson plan. Like in the step before, one teacher teaches and the other team members do teaching observation to find learning evidence. And the last step (documenting the lesson study), the team write and document their practice of lesson study so other teachers can learn from their practice. The practice of lesson study is reported in details.

### **3. Lesson Study and Teacher Professional Development (TPD)**

Several researchs have shown that there is a shift of trends in the pattern of teacher professional development (TPD). Seminars and workshops for teachers used to be an approach in improving TPD. However,

<sup>6</sup> Ibid.

the use of teacher learning communities, like lesson study, now is proven to be more effective in improving TPD. Successful TPD is indicated by six components<sup>7</sup>:

- a. It actively fosters a reform style, e.g. study group, mentoring etc. than seminars or workshops.
- b. It is conducted in sufficient duration.
- c. It emphasizes a group of teachers from the same background.
- d. It provides for active learning.
- e. It promotes coherence by incorporating experiences that are consistent with teachers' goals and state standards.
- f. It has a content focus.

These six components occur in lesson study as teachers work as a team. They discuss some instructional problems happen in the class and brainstorm ideas to find solutions to the problems. Lesson study is also assumed to be beneficial in improving teacher professional development since it allows teacher from the same educational background to have deep discussion with their colleagues about their reflective teaching, learning curriculum, management content and pedagogy from experienced teachers and supporting new pedagogical approaches<sup>8</sup>.

---

<sup>7</sup> Laura M. Desimone, Andrew C. Porter, Michael S. Garet, Kwang Suk Yoon and Beatrice F. Birman. "Effects on professional development on teachers' instruction: Results from a three-year longitudinal study" (Educational Evaluation and Policy Analysis, 2002), 2.

<sup>8</sup> Department of Education, "Improving Subject Pedagogy through

## C. Research Methodology

The main data for this research are classroom observation and teacher's reflective notes. Thus, it can be considered as a qualitative research as stated that (i) its natural setting is the source of direct data, and the researcher is a key instrument of qualitative research; (ii) qualitative data is collected in the form of words or images, rather than numbers; (iii) qualitative researchers examine processes as well as outcomes; (iv) qualitative researchers tend to analyze their data inductively; and (v) the main focus of qualitative research is how people understand their lives<sup>9</sup>.

This research also fulfilled the criteria of case study that "The case study is a systematic collection of information about a person, group, or community; social setting; or event in order to gain insight into its functioning. A case is bounded in time and place. You may collect data through observation, discussion, task completions, standardized tests, and self-report from the classroom participants."<sup>10</sup>

---

Lesson Study; A Handbook for Leading Teachers in Mathematics and English," 2010, [www.education.gov.uk](http://www.education.gov.uk).

<sup>9</sup> Jack R Fraenkel and Norman E Wallen. *How to Design and Evaluate Research in Education*. New York: McGraw-Hill, 2008.

<sup>10</sup> James B Schreiber and Kimberly Asner-Self. *Educational Research: The Interrelationship of Questions*. Sampling,

The research was conducted in STKIP Siliwangi Bandung in one regular class of 2016 in the course of Innovation in English Language Teacher. There are 62 student participants and 3 lecturers involved in this research. One of the lecturers performs as model while the other two are observers. Below are the profiles of the lecturers.

TEACHER CODE	GENDER	TEACHING EXPERIENCE	BACKGROUND OF EDUCATION
ILS	Female	6 years	English Education
RSR	Female	7 years	English Education
YA	Female	8 years	English Education

This research was conducted following the steps proposed by Cerbin and Copp;<sup>11</sup> that is (a) formulating learning goals; (b) planning the research lesson; (c) designing the study; (d) teaching and observing the research lesson; (e) analyzing the data/learning evidence; (f) repeating the process; and (g) documenting the lesson study. This research repeated the process three times based on the revised lesson; thus the findings are described in three cycles.

---

Design, and Analysis. New Jersey: John Wiley & Sons, Inc, 2011.

<sup>11</sup> Cerbin and Kopp, "Lesson Study as a Model for Building Pedagogical Knowledge and Improving Teaching.," 3.

## D. Findings

### 1. The Implementation of Lesson Study

The implementation of lesson study consists of three cycles and each cycle covers six stages: (1) formulating learning goal; (2) planning the research lesson; (3) Designing the study; (4) Teaching and observing lesson design; (5) Analyzing the data; (6) Repeating the process

#### a. Cycle 1:

The Lesson study process followed in the study is described in detail under the titles of the steps:

##### 1) Formulating Learning Goals

Lesson Study started with forming a team to conduct a Lesson Study. In this study, a team of three lecturers worked together on a research lesson. In this study, one of the lecturers accepted the responsibility of teaching the lesson while the other two lecturers were in charge of observing students.

Having specified regular meeting times indeveloping learning objective and discussing the problem to solve in teaching Innovation in ELT. Since most of the students had difficulty in the use of ICT, thus, the lecturers agreed that the lesson should focus on the use of web application in creating media for teaching English. Therefore, the goal of the lesson was specified as follows: "By the end of the lesson, students are

expected to be able to apply web in creating media for teaching English."

#### 2) Planning the research lesson

In this stage, the observers collaborated with the classroom lecturers in designing a lesson plan. Then, all the lecturers had some activities in mind to teach students by using web applications in teaching English. In the first meeting, the lecturer will teach how to apply Cryptogram in teaching vocabulary.

#### 3) Designing the study

The lecturers collaboratively planned about how to investigate the students' learning. They decided that there are several aspects to be observed during the practice of lesson study. The aspects include relationship and its change, cognition of children, pedagogical skills, the structure of lesson and quality of learning.

#### 4) Teaching and observing the research lesson

One lecturer from the team teaches the lesson and the others team members observed and collected the data by using the observation form. An observation checklist including the activities in the lesson plan was given to each teacher for student observation. Observers wrote comments about students' progress next to each activity.

During the teaching hour, two of the teachers who were in charge of observing students sat on two different sides of the classroom. One of the group members sat on the left hand side of the classroom to observe students nearby while the other teacher sat on the right hand side and paid attention to students there.

This stage was divided into three stages; pre-activity, while activity, and post-activity.

In pre-activity, the lecturer did brainstorming by giving students several questions related to innovation in English Language Teaching. The first question was how to teach English effectively. Then, they answered differently. Some students mentioned that a good teaching method as one aspect that can make teaching and learning process effective. And the other said that media as the most important thing in teaching. Then, the lecture continued to the second questions. "So, can you mention several teaching medias that can be used in teaching English?". All the students answered directly such as picture, song, flashcard, projector. Furthermore, the lecturer stated the objective of teaching. She said that, "the topic for today is teaching English by using web application. Then, by the end of the lesson,

students are expected to be able to apply web in teaching English."

In while activity, the first web application that the lecturer presented namely Cryptogram. She showed the students how to apply Cryptogram in teaching vocabulary. The data observation revealed that the activity was able to activate students' vocabularies. The students enjoyed in exploring vocabularies by using cryptogram. It can be seen that all students were active and enthusiasm in expressing what they know related to the topic in each group.

However, the data also showed that there are several problems emerged during teaching and learning process. For example, some students could not access to the internet connection. While, the other students who were able to access to the internet still could not follow the lecturer's instruction. They had difficulty in applying the web application. As a result, the students helped each other in accessing the website. This made the class condition uncondusive.

In addition, iapplying cryptogram, the students were required to mention ten vocabularies related to the topic. The study showed that when there was a student created the mistakes in spelling, the other students did not hesitate to correct it.

#### 5) Analyzing the data

In this stage, the lecturers discussed how the teaching and learning process has been conducted referring to the observation checklists during the observation. The model lecturers telling the problems she faced during the implementation of the plan. Then, they shared their ideas and examine the evidence to find solution which may reveal important insights into the improvement of teaching and learning quality. Finally, each lesson study member gave feedback about possible ways to revise the lesson in line with the objective of teaching.

Based on the several problems emerged during the teaching and learning process, the lecturer team determined to redesign the lesson plan for the next teaching-learning process to improve the lessons. The revision of lesson plan includes the use of cooperative learning and revised the objective of teaching. The objective of teaching in the neext meeting is at the end of the lesson the students are expected to be able to apply the other web application for creating media in teaching English.

#### 6) Repeating the process

In this step, the team conducted teaching and learning process based on the revised lesson plan. One lecturer was chosen to be the model, and the other ones became the

observers. Observation and reflective notes were made during the teaching and learning process.

## **b. Cycle 2**

### 1) Formulating Learning Goals

The goal of teaching in the second meeting is at the end of the lesson the students will be able to apply web in creating media for teaching English. The objective of teaching in the next meeting is at the end of the lesson the students are expected to be able to apply the other web application for creating media in teaching English.

### 2) Planning the Research Lesson

All the lecturers determined that cooperative learning will be effective to be applied in teaching the big class. Since the number of students are 62, the teaching and learning process will be conducted in the group.

### 3) Designing the Study

The lecturers collaboratively planned about how to investigate the students' learning. They decided that there are several aspects to be observed during the practice of lesson study. The aspects includes relationship and its change, cognition of children, pedagogical skills, structure of lesson and quality of learning.

### 4) Teaching and Observing the Research Lesson

In pre-activity, the lecturer reviewed the previous lesson about the use of Cryptogram in teaching vocabulary. Then, in while-activity, the lecturer grouped the students by asking them to count until eight and those who mentioned the same number become one group. Afterthat, the students were asked to find the other web application for creating media in teaching English.

In while activity, the data revealed that there were eight groups and eight web applications such as [www.ewe.com](http://www.ewe.com), [www.uefap.com](http://www.uefap.com), [www.funenglishgame.com](http://www.funenglishgame.com), [syvum.com](http://syvum.com), [www.duolingo.com](http://www.duolingo.com), [www.itouchtofl.com](http://www.itouchtofl.com), [www.dictionarycambridge.com](http://www.dictionarycambridge.com), and [www.gamestolearnenglish.com](http://www.gamestolearnenglish.com).

Most of groups focused on the use of website for creating media in teaching vocabulary, reading and writing skill. Only second group that used website [www.uefap.com](http://www.uefap.com) for teaching listening.

The data showed that the all the students in each group were actively involved in the teaching and learning process. It can be seen from the data observation that the students of group five who were exploring [www.duolingo.com](http://www.duolingo.com) found that there are many ready made activities that can be used in teaching four skills. The leader of the group divided the

member in group to explore each skills. Thus, students in pair has the responsibility to explore the website for each skill. The data revealed that all the member of the group were active in doing the task. Being active in learning process indicates students' interest. Accordingly, the students learn best when they themselves are actively involved in their own learning. This is in line with the statement that learning a language is easily when the language is interesting<sup>12</sup>.

Furthermore, in completing the task, the students need to work in a team. This activity can facilitate students' ability to work collaboratively in team. From the observation, it was found that in each group the students did a good collaboration in completing the task. It is supported by the data that while the students of group three were exploring [www.funenglishgame.com](http://www.funenglishgame.com), there was a problem to print the material. Fortunately, one of group member offered the solution to solve the problem by creating the screenshot. This indicates that in learning community, students can enhance broader skills of

cooperation<sup>13</sup>. Thus, through the activity the students can improve both academic and social skills.

In addition, the data also revealed that the activity can enhance students creativity. It can be seen from the observation. The second group focused on creating the practice of listening skill by using [www.uefap.com](http://www.uefap.com). Since the content of the website is not organized well, the students need to explore it creatively.

#### 5) Analyzing the Data

In this stage, referring to the observation checklists, the lecturers discussed and shared their ideas about the teaching and learning process that has been conducted. The observer concluded that each group of the students has a good website to be applied in the classroom. Thus, they suggested that it will be better that all students can get further information about the eight website. Finally, they decided to use jigsaw technique for next lesson.

### c. Cycle 3

#### 1) Formulating Learning Goals

The objective of teaching in the third meeting is at the end of the lesson the students will be able to apply web in creating media for teaching English.

---

<sup>12</sup> Bachrudin Musthafa, *Teaching English to Young Learners: Principles and Technique* (Bandung: School of Postgraduate Studies (SPs) Indonesia University of Education (UPI), 2008).

---

<sup>13</sup> Jeremy Harmer. *The Practice of English Language Teaching* (United Kingdom: Longman, 2001)

## 2) Planning the Research Lesson

The activity in this meeting would continue the previous meeting. It was decided that jigsaw would be applied in this meeting to make the students share their websites that had been discussed in the second meeting.

## 3) Designing the Study

The lecturers decided to add two aspects into observation sheet. The aspects includes communicating competence, critical thinking, collaborating competence and creative thinking.

## 4) Teaching and Observing The Research Lesson

In pre-activity, the lecturer reviewed the previous lesson about the website that each group had elaborated. Then, in while-activity, the lecturer still asked the students to sit in group. She made four groups to sit in the right side while the other four in the left side. She then explained that each side should form new four groups consisting of members from all previous group. They were given seven minutes each to describe the website they had. Therefore the new group would have 28 minutes for discussion. After that, they were instructed to interview other four groups in the opposite side. In the end, each members would return to the former group to discuss the websites of the other seven groups.

The data showed that at first they looked confused about the instruction given. Thus, the teacher simulated the instruction to the groups in the right side. The groups in the left side paid attention, and began to understand. During the discussion in the new group, they were actively involved. Some groups volunteered themselves to present first, while other groups decided to randomly select through lottery. When they were in doubt about the website, they asked other members in other groups to confirm. They also asked questions about other aspects of language that can be made beside the presenters had given.

At the end of the session, the group members returned to the group in the beginning. They had to decide which website that can be beneficial for them in terms of practicality and quality. Each group came to different decision according to their own considerations.

## 5) Analyzing the data

In this stage, model lecturer and observers agreed that the students' cognition and pedagogy improved. It was shown by the students' ability to present, discuss, and decide the websites they had chosen. They were able to collaborate and communicate with each other. Besides, they could also show negotiation skill in deciding the website they believed to be practical and eligible.

## 2. Lesson Study in Promoting Teacher's Professional Development

During the implementation, the model lecturer collaborates with two other lecturers as observers who are also experienced in EFL teaching. During the implementation, many information and knowledge are being shared and discussed. For example, one of the observers who is currently taking a doctoral degree in English education shares current issues in English teaching. She is also the one who proposed the web to introduce to the students. This indicates that professional development is perceived of as a *collaborative process*.

Team discussion in this research was conducted during the whole implementation of lesson study starting from formulation of the learning goal until documentation. In the first stage, learning goal had been decided in the beginning of the semester so the team did not encounter any meaningful problem. At the next stage, warm discussion took place since every member had different perspectives on the technique of teaching and aspects to observe. This discussion was considered to be enlightening for each member and eventually a decision could be made for the sake of the lecturer and students.

Furthermore, the stage of observation and analysis of data give some sights for the teacher since she

might have missed it, for example, when the students did not follow the instructions. The model lecturer might have missed it that the students looked confused. Therefore when doing the analysis the observer suggested the model lecturer to give a clear instruction. During the observation, the observer could also record the students respond toward the teaching. Thus, the students' development could be documented in details. This would lead to a better understanding of the students' competencies.

In addition, teacher's reflective journal written during the implementation of lesson study provides insights about the teaching process, especially for the model lecturer. This is in line with statement that "reflective journal writing assisted them in grasping their teaching and learning process along with identifying obstacles and mistakes in their teaching".<sup>14</sup>

One example of reflective journal written by the model lecturer was,

I think only two or three of the students understood what to do when I told them to make new groups consisting of 4 different previous group members. Those who understood nod their head, but mostly stood still. Therefore I gave them simulation. Maybe my

---

<sup>14</sup> Suleyman Davut Göker, "Use of Reflective Journals in Development of Teachers' Leadership and Teaching Skills," *Universal Journal of Educational Research* 4, no. 12A (December 2016): 63–70, <https://doi.org/10.13189/ujer.2016.041309>.

instruction was not clear enough for them. However, doing jigsaw for the first time is usually confusing. Demonstrating how to do it obviously helped the students.

From the journal above, it can be seen how the model lecturer noted her obstacle in giving instruction and the solution. This activity is considered to be very practical since it was written by the model lecturer herself. Reflective journal can help the model lecturer to contemplate about the teaching-learning process; hence she could improve the teaching for the next session.

#### **E. Conclusion and Recommendation**

Lesson study is a way for teachers to engage in professional development through collaborative activities. The principle of collaboration facilitates teachers to build learning communities effectively and efficiently. This study has described the implementation of lesson study in STKIP Siliwangi Bandung.

The implementation of lesson study consists of three cycles and each cycle covers six stages: (1) formulating learning goal; (2) planning the research lesson; (3) Designing the study; (4) Teaching and observing lesson design; (5) Analyzing the data; (6) Repeating the process. Those stages of lesson study activities result in better student learning.

The data revealed that the lesson was very helpful in providing the

students with a more interesting set of activities, which made the students actively involved in teaching and learning process. In addition, through the activity the students can improve not only academic and but also social skills. It can also enhance students' creativity. It was also proven that lesson study helped lecturers to improve their professionalism. However, since the current study is a case study whose results cannot be generalized, there is a need for more lesson study projects in other EFL contexts.

#### **References**

- Avalos, Beatrice. "Teacher Professional Development in Teaching and Teacher Education over Ten Years." *Teaching and Teacher Education* 27, no. 1 (January 2011): 10–20. <https://doi.org/10.1016/j.tate.2010.08.007>.
- Cerbin, William, and Bryan Kopp. "Lesson Study as a Model for Building Pedagogical Knowledge and Improving Teaching." *International Journal of Teaching and Learning in Higher Education* 18, no. 3 (2006): 250–257.
- Davut Göker, Suleyman. "Use of Reflective Journals in Development of Teachers' Leadership and Teaching Skills." *Universal Journal of Educational Research* 4, no. 12A (December 2016): 63–70. <https://doi.org/10.13189/ujer.2016.041309>.

- Department of Education. (2010). *Improving subject pedagogy through lesson study; A handbook for leading teachers in Mathematics and English*. Available at: [www.education.gov.uk](http://www.education.gov.uk). {retrieved on Nopember 2, 2017}
- Desimore, et al. (2002). *Effects on professional development on teachers' instruction: Results from a three-year longitudinal study*. Educational Evaluation and Policy Analysis, 24 (2) pages 81-112.
- Fajar, Isti. "PERKEMBANGAN LESSON STUDY DI INDONESIA." Accessed November 23, 2017. <http://istifajar.blogspot.com/2012/09/perkembangan-lesson-study-di-indonesia.html>.
- Fernandez, Clea, Joanna Cannon, and Sonal Chokshi. "A US–Japan Lesson Study Collaboration Reveals Critical Lenses for Examining Practice." *Teaching and Teacher Education* 19, no. 2 (February 2003): 171–85. [https://doi.org/10.1016/S0742-051X\(02\)00102-6](https://doi.org/10.1016/S0742-051X(02)00102-6).
- Fraenkel, J. R., dan Wallen, N. (2008). *How to Design and Evaluate Research in Education*. New York: McGraw-Hill.
- Harmer, Jeremy. *The Practice of English Language Teaching*. England: Longman, 2001.
- Lenski, S.J. and Caskey, M.M. *Using lesson study approach to plan for student learning*. Middle School Journal, January 2009 pages 50-57.
- Musthafa, Bachruddin. *Teaching English to Young Learners: Principles and Technique*. Bandung: School of Postgraduate Studies (SPs) Indonesia University of Education (UPI), 2008.
- Schreiber, J., dan Asner-Self, K. *Educational Research: The Interrelationship of Questions, Sampling, Design, and Analysis*. New Jersey: John Willey & Sons, Inc, 2011
- Stepanek, et al. *A practical guide for Teachers and Facilitators. A Handbook of Lesson Study in Hillgrove Secondary School*, 2005.

## APPENDICES

### APPENDIX 1: OBSERVATION SHEET

(Adopted from: Stepanek, 2005)

What to Observe	Your Observation	Suggestions
Relationship and its change 1. Physical changes in students (facial expression and body language) 2. Students able to see and hear 3. Students communicate with each other 4. Teacher has good relationship with students (trust)		
Cognition of Children 1. Students explore learning, stumble struggle 2. Students allowed to make mistake 3. Teacher only guide when necessary		
Pedagogical Skills 1. Pedagogy is engaging 2. Teacher employs IRE (teacher initiates questions, students respond and teacher evaluates responses) 3. Dialogue not monologue		
Structure of Lesson 1. Lesson objectives 2. Introduction 3. Collaborative learning 4. Individual seat work 5. Task 6. Assessment 7. Closure		
Quality of Learning 1. Learning experience of students 2. Quality of verbal information (oral discourse and written information) 3. Realistic level of tasks 4. Efficiency of learning		

**APPENDIX 2**  
**Reviewing a Research Lesson Template**

(Adopted from: A Handbook for Leading Teachers in Math and English, 2010)

<b>Questions</b>	<b>Answers</b>
What progress did each student make? Was this enough?	
What about others in the group of learners they typify?	
How did the technique being developed, help or hinder?	
What aspect(s) of teaching technique could be adjusted next time to improve the progress of each pupil?	
What techniques should we try in the next lesson?	

**APPENDIX 3**  
**Lesson Study Report Template**

(Adopted from: Stepanek, 2005)

<b>SECTIONS</b>	<b>REMARKS</b>
Title	Title of the report Name of teacher –researcher Names of other team members School and Department Date
Abstract	Academic level and student ability Subject and topic Key pedagogies Key findings
Introduction	Rationale (context, background and purpose) Objectives of research lesson Literature review
Methodology	Explanation of how lesson was done How the data were collected
Findings	Presenting the findings (qualitative or quantitative data to evaluate the effectiveness of the lesson)

Discussion	<p>Presenting an interpretation and evaluation results</p> <p>Analyzing the result and drawing together different aspects of findings</p> <p>Discussing classroom observations (relationships and its changes, cognition of children, pedagogical skills, structure of learning and quality of learning)</p>
Reflection	Analyzing the facts from your own perspective and input from observers and suggestion on how to improve the lesson)
Conclusion	A brief statement of what was found
Opportunities, Challenges and Recommendations	<p>Suggestion about suitable changes or solutions</p> <p>Implications and future plans (if any)</p>
Appendix	<p>Lesson plan</p> <p>Observation recoding sheet</p> <p>Attachment of additional information (surveys, questionnaire, tests, quiz, interview, etc.)</p> <p>Video recording (if available)</p>
References	All references used