

# Introducing Lesson Study to Improve Student Learning in the Classroom

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**Abstract**—The 2013 National Education Curriculum requires students to be the center of teaching and learning process in the classroom. Having Student Centered Learning (SCL) as the teaching approach, the implementation of the curriculum implies that students should be involved actively during the transfer of the knowledge in the classroom. In addition, students' engagement during the learning process is paramount, and the teachers are supposed to be the students' facilitators of learning. However, the phenomenon in which Student-Centered Learning gained less attention which affects students less interests in attending the lesson are commonly found in many Indonesian schools, including in an Islamic secondary school. This situation finally affects their learning in the classroom, and consequently they cannot get the most benefit of their study. In this wake, this paper investigates student learning in the classroom using collaborative teacher professional development called lesson study. Underpinned by qualitative research design, the study employed ten secondary teachers who collaboratively conducted 'research lessons' in which a model teacher delivered the lesson in the classroom and other colleagues observed the student learning. The data obtained from teacher observation and student evaluation revealed positive indicators of student learning during the teaching and learning process. Thus, despite lesson study is regarded as an initial professional learning activity for the teachers, it is worth to maintain its sustainability in this Islamic secondary school.

**Keywords**—*lesson study, student learning, research lesson, teacher professional*

## I. INTRODUCTION

Teachers become one of the important aspects in the success of education and play a very important role at schools. As the spearhead of education, teachers are responsible for the effective teaching and learning process in the classroom in order to produce excellent graduates. Having such important roles in education; however, teachers in Indonesia in the past were not regarded as professionals, and therefore; they received only a small amount of remuneration from the government [1]. This condition was often blamed for teachers being incompetence in their job [2]; [3]. According to Human Index Development (HDI), teachers' quality in Indonesia is regarded not good enough to make changes in teaching areas. Statistical data of HDI showed that 60% elementary school teachers, 40% junior high school teachers, 43% senior high school teachers, and 34% vocational schoolteachers were regarded incompetent to teach [2]. As a consequence, student learning outcome was also regarded still poor. Based on the PISA (Programme for International Student Assessment)

survey result in 2015, Indonesia ranked 67 in reading, 66 in Math, and 65 in Science of the total 72 countries [24]. This program was conducted by the Organization for Economic Co-operation and Development (OECD) in which 15-year-old school pupils' scholastic performance on mathematics, science, and reading were measured [25]. This evaluation is conducted every three years in order to provide comparable data among the member countries to improve their education policies and outcomes. Based on this result, it can be concluded that the quality education in Indonesia is still far left behind compared to other countries.

In an attempt to improve the quality of national education, the Indonesian government has stipulated the Teacher and Lecturer Law No. 14/2015 in which teachers and lecturers are regarded as professionals and they are entitled to have additional incentives with certain conditions. Beside additional rewards from the government, the Teacher and Lecturer Law No. 14/2015 requires teachers and lecturers to be professional by maintaining their competencies in terms of pedagogy, professional, personal, and social competencies. However, such ideal conditions cannot be fully fulfilled because of several obstacles caused by teachers, schools, or students at the school.

In terms of teachers, many teachers in Indonesia are regarded as less qualified in teaching [3] and this situation has resulted in less effective teaching and learning process in the classroom [2]. In addition, some teachers are found to teach subject other than their expertise. It is very common to find a teacher teaches a subject which is not in the area of his or her expertise. In fact, around 17, 2% teachers teach subject other than their expertise [2]. Furthermore, with the 2013 National Education Curriculum (later K13) needed to be implemented in 2018, teachers' workload is increasing because the K13 curriculum demands the teacher to focus the teaching and learning process on students. This approach is called Students Centered Learning (SCL) and the teacher is demanded to serve as a facilitator rather than merely a knowledge transferrer. In practice, the ideal situation becomes challenges for teachers. Such less ideal situation was also found in an Islamic secondary school in Yogyakarta.

Based on my experience when observing pre-service teacher internship several times at the aforementioned school, there were several problems that had to be resolved so that the teaching and learning process could be more effective. These problems comprise 1) students are less interested in attending the lesson during the teaching and learning process, 2) students' participation in the classroom is low, 3) SCL

approach gains less attention in the classroom. These conditions have affected in student low level of learning.

In responding to such issues, several efforts are needed to be conducted by the teachers in the school. Of several choices of activities, lesson study is considered appropriate to be applied as a professional learning development for teachers at the school. Lesson study is a Japanese teacher professional development model in which a group of teachers collaboratively design lesson plans, deliver the lesson plans in the real classrooms, and conduct reflections on the teaching and learning process [4]. Based on several previous studies [5]; [6]; [7], lesson study is regarded effective in improving student learning in the classroom [6]. Even though lesson study as a model of teacher professional development has been implemented by secondary school teachers in various regions in Indonesia since early 2000s, including in Yogyakarta, the success of lesson study in improving the teaching and learning process among teachers in this Islamic secondary school has not been implemented yet. In fact, most of the teachers in this school had no idea about lesson study. Thus, while other studies usually explored lesson study implementation in which the participants were familiar and already involved in lesson study activities, this research focused on the school in which all of the teachers had no knowledge about lesson study. Therefore, this study may bridge the gap. This study thus aimed to reveal research questions such as 1) How is lesson study implemented in the classroom? 2) How does lesson study support student learning, and 3) what are students' responses toward lesson study? In order to answer these questions, a thorough examination on the implementation of lesson study and how it affects student learning in the classroom now warrants further investigation.

## II. LITERATURE REVIEW

The objectives of lessons or courses can be achieved if the teaching and learning process is effective. In addition, effective teaching is likely resulted from effective teacher. Therefore, J.C. Richards, and D. Bohlke [8] mentioned that teachers play an important role in creating effective teaching, namely 1) creating a positive learning environment, 2) developing learner-centred teaching, and 3) planning and reviewing the lessons. In maintaining effective teaching, teachers have to ensure that students are engaged in the classroom. According to P. Goss, and J. Sonnemann [9], when students are engaged in class, they learn more. Therefore, it is necessary for teachers to provide conducive learning environments. J. Parsons and L. Taylor [10] mentioned that students' engagement can be characterized by several components, namely (1) interaction, (2) exploration, (3) relevancy, (4) multimedia, (5) instruction, and (6) authentic assessment. As mentioned above, students' engagement lead to students' learning; therefore, teachers need to be professional and competent so that students' learning can be obtained in the classroom. Consequently, teachers need to update their knowledge by conducting on going teacher professional development.

Lesson study is a Japanese model of teacher professional development in which a group of teachers collaboratively design a lesson, execute the lesson in the real classroom (sometimes called as research lessons) while observed by other peer teachers, and reflect the lessons. All steps of this

lesson study are conducted in a learning cycle. Once a cycle is completed, another cycle can be started. This way, lesson study is regarded as an effective model of teacher professional development because of several features attached to it, such as 1) it can be conducted through a series of cycles, 2) it is based on teachers' classroom, and 3) it is conducted collaboratively [11]. The activities conducted in research lessons have become a teaching habit in Japanese classrooms which prove to increase not only teachers' capacity but also teaching quality, and therefore no school in Japan is found without research lessons [12]. Through lesson study, the classroom becomes the teachers' laboratory for continuous improvement of teaching and learning.

In more simple words, lesson study is defined as learning a learning activity [13]. Lesson study in Indonesia was started by initiating IMSTEP (Indonesian Mathematics and Science Teacher Education Project) in 1998 conducted by three Institutes of Teacher Training and Education (IKIP) located in Bandung, Yogyakarta, and Malang in collaboration with Japan International Cooperation Agency (JICA). The IMSTEP project was regarded successful in improving Mathematics and Science Education [13]. Since then, lesson study has been implemented by many schools in different parts of Indonesia.

The premise behind lesson study is simple: if you want to improve teaching, the most effective way to do so is in the context of classroom lesson [14]. It has spread all over the world, moving far from its origin of country, Japan. Lesson study in Indonesia is implemented in three steps, clarified as: 1) Plan (planning the lesson plan and research lesson), 2) Do (teaching and observing the lesson), and 3) See (evaluating and reflecting the lesson). In planning phase, some teachers work together on designing a lesson plan on a certain topic. The lesson plan is then taught in a real classroom, often called as a research lesson, by a model teacher while other teachers observe the teaching and learning process. It is also common for the teachers' team to invite other parties such as colleagues from different subjects, the principals, and the school stakeholders as well as the experts of the subject matter to observe the research lesson. Having completed the class, they take a break for about 30 minutes and then they are ready to have debriefing or reflection session. In the debriefing, the teacher model shares his/her experience when teaching in the class, and then followed by other participants giving comments on the learning process, and ended with final remarks from the expert. After debriefing session, the teachers' team can revise and reteach the lesson plan to the same class or to a different class, and then another cycle of lesson study begins.

## III. REVIEW ON PREVIOUS STUDIES

The success of lesson study in improving students' learning has been conducted by researchers. A study about how lesson study enhanced students' learning was conducted by G. K. D. Areni, and F. Syafri [15] in which thirty students were involved as the participants. The research aimed at seeking (1) the advantages and disadvantages of lesson study applied in a theoretical subject class; and (2) the effectiveness of it for students' learning outcomes. Using descriptive qualitative as the research design, the study revealed the following findings: (1) the teacher can prepare her lesson plans and teaching media more carefully; (2) she can conduct

her class more confidently and professionally; (3) she can get evaluation about her teaching process after her class ends; (4) the students can be more active and study more seriously; and (5) they can achieve better scores compared to other classes which don't use lesson study. It shows that the students found to be more active and serious during the teaching and learning process, and therefore; students' learning improved which was proven by gaining better scores due to the implementation of lesson study.

Another study related to lesson study and students' learning was conducted by W. Cajkler [16]. Using Dudley's lesson study framework and, drawing on Hargreaves and Fullan's notion of professional capital, lesson study as a means to maintain teacher professional development was investigated. Underpinned by qualitative, inductive and exploratory mode of enquiry, the setting for the study was an urban secondary school in the East Midlands region of England in which four teachers were involved. In this study, lesson study was implemented for approximately six months. The finding showed that although teachers had problems in time management, the implementation of lesson study improved students' understanding in the classroom.

Finally, an article about how lesson study may lead to an opportunity for teachers at middle school to work together to strengthen the link between instructional planning and student learning was written by Jr. Anfara and V. A [17] using theoretical perspectives of Situated Learning Theory in Jr. Anfara and V. A [17], learning is situated in the specific activity and is embedded within a particular context and culture. It means that learning happens due to a social process in which knowledge is constructed by individuals. In this case, Lesson Study conducted by the teachers has resulted in teachers' learning as they share ideas and collaborate on lessons for their actual classrooms. As teachers learn teaching practices from peer teachers, they can plan better instructions and this results in better students' learning.

#### IV. METHODOLOGY

Underpinned by a constructivist paradigm, this qualitative study seeks to investigate the implementation of lesson study in the classroom and how it supports students' learning as well as investigate students' responses toward lesson study in an Islamic secondary school in Yogyakarta. A constructivist approach enables the development of a better understanding of the participants' experience [18] because the truth is constructed by individual interpretations [19]. As lesson study is still relatively new among the participants, a constructivist paradigm framing this study was able to encourage the solicitation of participants' view [20].

This study mainly employed qualitative data collection methods and analyses namely observation, document analyses, and a small-scale questionnaire. Although a small-scale questionnaire was used to support and enrich the data collection, this study was still predominantly qualitative. Observation during teaching and learning process in the classroom was used to gather evidence about students' learning, while documents such as audio and video recordings as well as observation checklists were used to validate the observation. Finally, the questionnaires from the students aimed to reveal students' responses toward the implementations of lesson study in their classroom.

The study was conducted from December 2018 – to February 2019 in an Islamic secondary school in Yogyakarta. Ten teachers of various subjects from the school and students of three classes were willing to be the participants. The teacher participants who represented ten courses were selected based on the principal's appointment while the student participants were chosen simply because their classroom was used as the research lesson venue.

The data collection was started when the participants conducted the lesson study cycles starting from Plan, Do, and See. In each phase of these cycles, all activities were recorded and all documents such as lesson plans, observation checklist sheets, questionnaires sheets, field notes, photos, and videos were collected and stored. To answer the research questions, the data collected was analyzed through several procedures. This research utilized data analyses suggested by J. W. Creswell [20] in which three analyses strategies were presented, comprising preparing and organizing the data, reducing the data into themes through a process of coding and condensing the codes, and finally representing the data in figures, tables, or a discussion. In order to maintain its trustworthiness, the study employed triangulation which involved collecting evidence from different sources so that a theme or perspective could be explained [20]. In this study, observation checklists, documents, video recording, observations, and questionnaires were triangulated to maintain the credibility of the study.

#### V. FINDINGS

This section presents the findings of the study. Based on the observation checklists result, documents, and students' responses to the questionnaires, there are three thematic findings corresponding to the research questions: 1) the implementation of lesson study, and 2) lesson study in supporting students learning, and 3) students' responses toward lesson study. The findings are elaborated as follows:

##### A. *Finding 1: The Implementation of Lesson Study*

The implementation of lesson study was started with a discussion in which the teacher participants grouped themselves into two lesson study groups, lesson study group 1 and lesson study group 2. After that, they planned a schedule regarding the Plan, Do, and See activities. Furthermore, in this meeting the participants agreed to have two cycles of lesson study in order to find out whether there was improvement related to students' learning, and therefore; two teachers in each lesson study group were assigned to volunteer as the model teachers. To find out students' learning improvement, the first and the cycle of lesson study were conducted in similar classes. In this case, the second cycles of lesson study were implemented based on the reflection in the first cycles.

In the first cycle, Ms. Rara and Mr. Hadi volunteered as the model teachers, while Ms. Rima and Ms. Sasha were willing to be the model teachers in the second cycle. In addition, the participants decided the topics to be delivered in the open lessons as well as the classes to be observed. The first two lessons were done in the first week of February 2019 and the second ones were in the following week. Following the typical model of lesson study in Indonesia, both lesson study groups conducted Plan, Do, and See. All of these steps were carefully recorded and documented.

**B. Finding 2: Lesson Study in Improving Student Learning in the Classroom**

The second research question of the study aimed to investigate student learning in the classroom through lesson study. The information about student learning was obtained from the observation checklists provided by the teacher involved in lesson study groups. The questions in the observation checklist such as 1) when do students start to learn in the class, and 2) what activities indicate student learning helped these observers focused on finding evidences of student learning during in the classroom. The observation results from the participants showed the situation when the students focus their study and learnt lessons in the teaching and learning process. In addition, the finding revealed activities which were believed to indicate students' learning in the classroom. The following paragraphs describes the findings related to students' learning in the classroom based on teachers' observation and these activities were conducted without interrupting teaching and learning process.

*When do students start to learn in the class?*

Based on the observation checklist results, it was found out that students were indicated to start their learning at different stages of teaching and learning process. Some students had already actively participated in the classroom when the teacher started the lesson, while some others began their learning when the teacher had explained the main content of the subject.

The following table describes detail activity indicating students' learning in the classroom.

TABLE I. STUDENT LEARNING IN THE CLASSROOM

When do students start to learn?	Various activities indicating students' learning
Lead-in session	<ul style="list-style-type: none"> <li>Watching video</li> </ul>
	<ul style="list-style-type: none"> <li>Refreshing students' memory on previous lesson</li> </ul>
	<ul style="list-style-type: none"> <li>Starting the lesson using target language</li> </ul>
While – in session	<ul style="list-style-type: none"> <li>Doing the tasks</li> </ul>
	<ul style="list-style-type: none"> <li>Writing answers on the whiteboard</li> </ul>
	<ul style="list-style-type: none"> <li>Listening to teacher explanation, explaining something on the whiteboard</li> </ul>
	<ul style="list-style-type: none"> <li>Reading books</li> </ul>
	<ul style="list-style-type: none"> <li>Explaining things</li> </ul>
	<ul style="list-style-type: none"> <li>Having question-answer sessions</li> </ul>

The table above shows that students have started their learning in the beginning and during the lessons. In this case, students' learning was indicated by students' participation in the classroom. It means that that if the students were involved actively in the teaching and learning process they were regarded to have learnt something from the lesson. The following paragraph describes the situation when the students start to learn which is divided into two phases; lead – in session and while-in session.

*Lead-in session.* The table above presented students' differences in showing their learning activities in the classroom. Based on the observation checklists and video recording, while some students had involved actively in the beginning of the lesson, others were not active until the teacher instructed them to do activities related to the subject.

Some students were engaged in learning activities in the beginning of the lesson when the teacher displayed a video learning. This was experienced by Ms. Sasha students when she ran a video related to debate examples. The video learning was meant to introduce the topic of the lesson, "Debate in Indonesian language subject". Similar situation in which the students started their learning in the beginning of the lesson happened when Mr. Hadi, an Arabic language teacher began the class by asking students' memory on the previous lesson using the target language, Arabic language. The students seemed eager to understand Mr. Hadi's question.

*While- in session.* Some students found it difficult to put their concentration in the beginning of their learning, and similar thing was also experienced by the students in this study. Based on the observation results, many students started their learning when the teacher explained the main content of the topic. Therefore, some students participated actively in the class when the teacher asked them to do the tasks. Another example showing students' learning was when the teacher instructed them to write the answer on the whiteboard in Mr. Hadi's class. The result from observation also showed that students actively listened to teacher explanation, read books, explained things, and other activities instructed by the model teachers. These activities indicate that students fully learnt in the teaching and learning process.

*What activities indicate students' learning?*

TABLE II. INDICATORS SHOWING STUDENTS' LEARNING IN THE CLASSROOM.

Students' participation	Indicators
<i>Teacher-student interactions</i>	<ul style="list-style-type: none"> <li>Responding to teacher questions</li> </ul>
	<ul style="list-style-type: none"> <li>Doing tasks from the teacher</li> </ul>
	<ul style="list-style-type: none"> <li>Paying attention to the teacher</li> </ul>
	<ul style="list-style-type: none"> <li>Copying the materials from the whiteboard</li> </ul>
<i>Student-student interactions</i>	<ul style="list-style-type: none"> <li>Doing pair discussions</li> </ul>
	<ul style="list-style-type: none"> <li>Doing group discussions</li> </ul>
<i>Student initiatives</i>	<ul style="list-style-type: none"> <li>Moving seat to the front class</li> </ul>

The table above shows the situations indicating students' learning. Based on the observation checklist report, it was revealed that students' learning happened because of three different activities such as 1) teacher-student interaction, 2) student-student interaction, and 3) student initiatives. Detail explanation about such situations is explained in the following paragraphs.

*Teacher-student interactions.* Students' learning is related to teacher teaching methods in the classroom. As mandated by K13, a good teacher is required to be a good facilitator for their students, meaning that many opportunities should be given to the students so that they become the centre of learning. The situation in which the teacher gave rooms for students to participate actively in the learning process and thus resulted in students' learning was revealed when the teacher gave questions and the students responded them. In addition, the teacher asked the students to do the tasks related

to the topic and the students completed the tasks. Students' learning were also seen when they paid attention to the teachers' explanation and then they copied information given by the teacher from the whiteboard. To summarize, teacher creativity in the classroom will greatly determine students' learning.

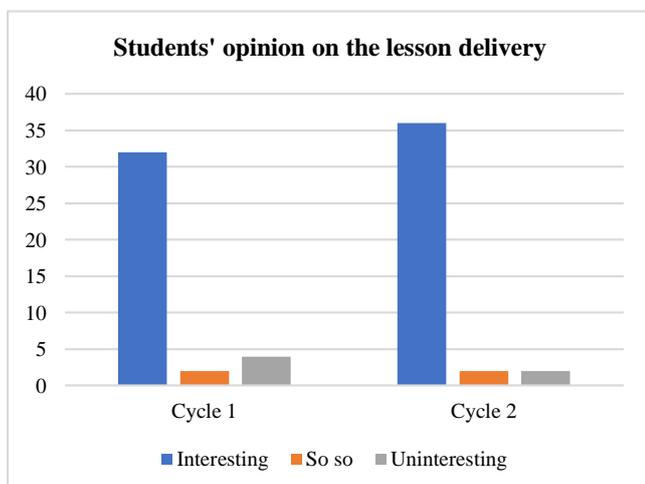
*Student-student interactions.* Beside interacting with the teachers, students' learning in the classroom was also indicated by their interaction with peers in the class. When students interact each other in the classroom, they can share information and knowledge. Thus, student learning can be created by having student-student interaction. Some teachers assigned tasks in which the students were required to have pair discussions and group discussions. Based on the observation results, many students enjoyed both pair and group discussions. Their body gestures indicated that they felt a bit more relaxed when they did discussions with their friends. Thus, this teaching method is worth to do as it can enhance students' learning.

*Students' initiative.* Based on the observation, students' learning happened due to students' initiatives. This case emerged when a student moved her seat from the back to the front seat. The observation checklist revealed that this student moved her seat because she could not read well the information presented in the whiteboard. Therefore, she needed to move closer to the whiteboard in order to understand more about the lesson.

### C. Finding 3: Students' Responses about Lesson Study Implementation

In addition to teachers' observation in obtaining the data related to students' learning, the study collected the data from the students regarding lesson study implementation. The questionnaires aimed to find out if lesson study affect students' participation during the lesson, and thus affecting their learning. The questionnaires were distributed to the students in the end of each meeting. The first question asking about their opinion regarding whether the class is interesting or not due to lesson study implementation revealed the data shown in the graphic below.

GRAPHIC 1. STUDENTS' OPINION



Based on the graphic above, it can be seen that most of the students stated that the lessons were interesting. In lesson study cycle 1, thirty-two students stated that the class was interesting while other two students thought that the class was fair, and four students stated the class was uninteresting. In cycle 2, more students attended the class. Of all students attending the class, thirty-six students agreed that the class was interesting, two students mentioned the class was just fair, and other two students stated the class was uninteresting. It can be summarized that the second cycle of lesson study had slightly made changes in students' interest in learning.

There were some reasons why the students thought that the class was interesting when lesson study was implemented. The following section explains detail information about their reasons based on their questionnaire's responses.

*Teacher's teaching style.* Many students admitted they stated that the class was interesting due their teacher teaching style. One student mentioned she liked the lesson because the teacher explained the topic very clearly. Other student stated he liked the class because the teacher was not boring. In addition, the teacher was regarded always fun during the teaching and learning process.

*Getting knowledge.* In addition to teacher teaching style as explained above, students enjoyed and thought the class was interesting because they obtained more knowledge. A student admitted he enjoyed learning Arabic language, while other student stated she improved her knowledge in Debate during Indonesian language lesson. These indicated that the students got more knowledge from the lessons and therefore they agreed to say that the class was interesting.

*The use of media.* The final reason why the students thought the class was interesting were due to the use of media in the classroom. The students were presented with video learning on debates when they attended Indonesian language. They seemed to enjoy the class when the model teacher, Sasha, introduced the topic by displaying video learning in the beginning of the lesson. The use of video turned to be effective in improving students' interest in the subject.

## VI. DISCUSSION

This section presents the discussions of the study. Responding to the research questions, the study revealed three main findings, namely 1) the implementation of lesson study, and 2) lesson study in supporting students learning, and 3) students' responses toward lesson study. The findings are discussed in the following paragraphs.

In relation to finding 1 revealing about how lesson study was implemented by the teacher participants in the school, it is found out that these teachers conducted lesson study into two cycles considering their time constraints. There were two open lessons in each cycle of lesson study, so there were four open lessons in total observed by these teachers. In addition, as these participants were relatively novice in lesson study, they implemented lesson study by following the steps of Indonesian lesson study such as Plan, Do, and See [21]. These steps of lesson study were conducted collaboratively among each member of the lesson study group. In order to make lesson study implementation more effective, the Plan and See sessions were conducted at the same time. This model of lesson study implementation has actually been practiced by many lesson study groups in Indonesia [21]. Focusing on

students' learning, the steps in lesson study bring many benefits for the teacher participants starting from Plan, Do, and See. During the Plan session, the teachers learnt ideas from the model teachers when Ms.Rara, Mr.Hadi, Ms. Rima, and Ms. Sasha shared their ideas on their lesson plan. As these teachers were from different background of subject, they finally could learn teaching ideas each other which probably different from their own background knowledge. In addition, these teachers could also learn their peers' teaching methods during the open lessons. As they observed the teaching and learning process, they could also learn what went well and what needed to be improved from the model teachers. In fact, the open lessons implemented by these teacher participants were potential to broaden their minds. This is in line with C. C. Lewis, and I. Tsuchida [22] who mentioned that "research lessons (open lessons) expand teachers' ideas of what teaching can be". When teachers have resourceful ideas on their teaching, they tend to teach their students more effectively. As Atkins, and Brown [23] said that effective teaching is sometimes related to successful teaching, meaning that the students learn something. Thus, if the teachers are effective, the chances for students to have learning opportunities are better.

Next, the study found out that students' learning improved due to lesson study implementation. This is in line with previous studies conducted by Jr. Anfara and V. A [17], W. Cajkler [16], and G. K. D. Areni, and F. Syafri [15]. Based on the observation checklists result, the observers noticed that students were less interested in the open lesson of lesson study cycle 1, especially in social class. Therefore, the model teacher, Ms. Sasha tried her best to teach the same class in the second cycle of lesson study. She employed various teaching methods and teaching media to attract students' attention so that students' learning can be more improved. As mentioned in the previous section, the observation checklist was provided so that the observers were able to record the data during the learning process. Although the observation checklist consisted of questions such as 1) when do students start to learn in the class, 2) what activities indicate student learning, 3) when do students lose their learning, 4) what activities indicate that student lose their learning, 5) what are the strengths of the model teacher, and 6) what experiences can you obtain from this learning process, the discussion is focused on students' learning. It means that this discussion covers only the first and the second questions. Referring to the observation checklist results from the observers, the time when the students started to learn and the activities indicating their learning process were recorded by the observers well. In terms of the time when the students started to learn, it was found out that these students were attracted to learn when the model teachers conducted lead – in session such as displaying video learning, asking questions to students, and using the target language such as in Arabic language class. These activities in lead-in session have made students engaged in the teaching and learning process. This situation in line with to P. Goss, and J. Sonnemann [9] who stated that when students are engaged in class, they learn more. Thus, it can be concluded that students' learning happens. In fact, a teacher should start teaching using something interesting such as playing video learning or making interactions with the students by asking personalized questions. This phenomenon corroborates J.C. Richards, and D. Bohlke [8] who mentioned that teachers play an important role in creating effective

teaching such as creating a positive learning environment. In addition, the observers noticed students' learning through some various indicators such as responding to the teachers' questions, doing tasks from the teachers, paying attention to the teachers, and so forth. Such activities from the students indicated that they were engaged in the learning process, and when they were engaged in the learning process, they have more opportunities to improve their learning too.

Finally, the third finding related to students' opinion about lesson study implementation mostly revealed that in general the students enjoyed their learning time because of several reasons, such as teacher teaching style, getting new knowledge, and the use of media. These reasons are making senses considering the teachers applied lesson study in the classroom. This is in line with G. K. D. Areni, and F. Syafri [15] who revealed that lesson study enabled teachers to prepare lesson plans and teaching media more carefully, and conduct classes more confidently and professionally. The nature of lesson study in which the teachers collaboratively designed the lesson plans, taught the lessons while observed by peer teachers, and got feedback in the reflection session was very potential to improve their teaching practices and result in students being more active in learning.

## VII. CONCLUSION AND RECOMMENDATION

This study aimed to find out students' learning using lesson study in a private senior high school in Yogyakarta. Students' learning in the classroom is regarded important because it can be one of indicators of student-centered learning as mandated by K13, and the students' learning can be enhanced through lesson study implementation. Using a qualitative research design, the study employed several data collection methods such as observation, documentation, and questionnaires. The findings show three important things; 1) the steps conducted in lesson study implementation comprising Plan, Do, and See, 2) lesson study in supporting students' learning in the classroom, and 3) students' responses about lesson study implementation. As this is a qualitative study, these findings are unique, meaning that similar topic with different participants and different context will result in different findings.

Based on these findings, some recommendations are proposed. First, lesson study should be introduced and implemented in wider contexts. This study merely involved ten teachers from ten different subjects, and it should be continued by all teachers from all subjects in the future. Next, lesson study is a sustainable teacher professional development, and thus its implementation should be continuously maintained. Finally, more cycles should be conducted in lesson study implementation so that the benefits can be enhanced.

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