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OKE STAR: Supporting the success of lesson study in high school

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Abstract: The first aim of our study is to document how the SBLS implementation process works. The second aim is to analyze teacher and student responses to implementing a School Based Lesson Study (SBLS). This research is survey research. The survey was conducted at one of the state high schools in Malang. The data collection process was carried out through observation, interviews, and the administration of questionnaires. Data collection was carried out in May 2024. Participants in this study were 33 students. They are 1 school principal, three Indonesian language subject teachers, and 29 class XI science students. A total of 16 male students and 13 female students. The students' ages range from 15 to 16 years. Observation, interviews, and student and teacher response questionnaires collected data. Data was analyzed qualitatively and quantitatively. The survey results show that implementing Lesson Study (LS) in schools has gone well. Students no longer look awkward when observed; teachers are skilled at planning and reflecting on learning outcomes. The school principal actively participates in LS activities by implementing the OKE STAR method. The response of teachers and students to learning that uses LS activities is very good.

Keywords: Learning community, OKE STAR, professionalism, school based lesson study

Abstrak: Tujuan pertama dari penelitian ini adalah untuk mendokumentasikan bagaimana proses implementasi SBLS berjalan. Tujuan kedua adalah untuk menganalisis respon guru dan siswa terhadap implementasi School Based Lesson Study (SBLS). Penelitian ini merupakan penelitian survei. Survei dilakukan di salah satu SMA Negeri di Malang. Proses pengumpulan data dilakukan melalui observasi, wawancara, dan pemberian angket. Pengumpulan data dilakukan pada bulan Mei 2024. Partisipan dalam penelitian ini berjumlah 33 siswa. Mereka terdiri dari 1 kepala sekolah, tiga guru mata pelajaran Bahasa Indonesia, dan 29 siswa kelas XI IPA. Sebanyak 16 siswa laki-laki dan 13 siswa perempuan. Usia siswa berkisar antara 15 sampai dengan 16 tahun. Data dikumpulkan melalui observasi, wawancara, dan angket respon siswa dan guru. Data dianalisis secara kualitatif dan kuantitatif. Hasil survei menunjukkan bahwa implementasi Lesson Study (LS) di sekolah telah berjalan dengan baik. Siswa tidak lagi terlihat canggung saat diamati; guru terampil dalam merencanakan dan merefleksikan hasil belajar. Kepala sekolah berpartisipasi aktif dalam kegiatan LS dengan menerapkan metode OKE STAR. Respon guru dan siswa terhadap pembelajaran yang menggunakan kegiatan LS sangat baik.

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Kata kunci: Komunitas belajar, OKE STAR, profesionalisme, school based lesson study

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INTRODUCTION

School reform with learning communities is a reform that realizes the 21st century school model (Nir et al., 2024). The school reform in question is how schools are able to create learning communities where teachers, students and parents learn from each other, as has been implemented in Japan and several other countries on an ongoing basis. This is based on the meaning that school as a learning community is a vision, philosophy and activity system, that school is a place where children learn together, teachers also learn

together as professional teachers, and even parents learn together through active participation (Mustadi, 2018). Lesson Study as a tool for school reform, can be used to change school culture, not just improve individual teaching skills. The role of school leaders in schools based on implementing lesson study is very important in ensuring growth, quality and sustainability (Takahashi, 2014). In this case, LS requires deep thinking, inquiry, and collaboration with a collective focus on classroom-based practices, not on the teachers themselves (Murata & Lee, 2020).

Recently, interest in utilizing Lesson Study (LS) as a form of collaborative action research to enhance teaching and learning on a global scale has increased. Lesson Study has garnered significant global influence as an innovative approach that yields effective pedagogical experiences and positively affects student learning achievement (Cajkler & Wood, 2013). Curriculum and pedagogical knowledge are developed through LS, which enables schools and teachers to create school-based curricula (Zhang, 2015). Furthermore, it allows for integrating educational innovations into the classroom by bridging the divide between theory and practice (Murata & Takahashi, 2002). Teachers collaboratively strategize and deliberate on student learning and teaching subject matter in small groups as they participate in LS, an increasingly popular model of professional development (PD) (Dudley, 2019).

LS is a collaborative approach led by teachers which aims to develop the teaching profession and student learning outcomes (Wood & Cajkler, 2018). LS is a structured process whereby educators work together to strategize, scrutinize, assess, and enhance tangible classroom learning. Lesson planning, instruction, observation, and discussion comprise this cyclical process designed to enhance educational practices (Nguyen et al., 2024). Lesson study implemented by a school involving all subject teachers in the school is called School Based Lesson Study (SBLS). With the existence of SBLS, it is possible for all elements of the school to grow and develop according to the needs of the school, because in this forum there is excellent collaboration between the Principal, teachers, students, and even with the community who cares about education (Rahayu & Nugroho, 2019).

In SBLS, teachers from one school take turns carrying out open lessons which are observed by other teachers (open lessons). Based on this activity, teachers learn from each other what a good learning process is, what learning methods and media can increase student motivation and activity, and other things. The stages taken in this research consist of two parts, the first part is preparation, and the second part is SBLS implementation. SBLS implementation consists of three cyclical stages, namely planning learning (Plan), implementing learning and observing (Do), and evaluating and reflecting (see) (Susilo et al., 2011). LS allows teachers to experience learning through teaching themselves and observing the teaching of others. Of course, teaching and teaching observation followed by teaching reflection significantly deepens the knowledge acquired by teachers to varying degrees (Cheung & Wong, 2014; Chin Mon et al., 2016; Özdemir, 2019).

Several studies show that SBLS plays a role in improving learning in schools and increasing teacher professionalism in learning. Yildiz and Baltaci (2017) emphasize that the LS facilitates the growth of the professional competence of educators. Furthermore, lesson study was discovered to enhance the reflective abilities of mathematics educators by promoting self-evaluation of teaching practices, facilitating detailed and dependable assessments of teaching quality, and developing techno-pedagogical competencies (Bozkurt

& Yetkin-Ozdemir, 2018). Four pre-service secondary school mathematics teachers participated in a case study by Guner and Akyuz (2020) to determine how lesson study affected teachers' focus on students' mathematical reasoning. Participating educators' attentiveness skills were found to be enhanced by the model's planning, instruction, and reflection elements.

According to the findings of Nguyen et al. (2024), regarding the implementation of LS, every teacher (n=6) holds the belief that LS promotes teacher exchange activities, providing the most effective avenue for educators to communicate ideas and obtain constructive feedback from their colleagues. Bocala (2015) further stated that via LS, educators engage in the process of emulating the learning styles of their peers. This process is at the heart of the effectiveness of the teaching profession. Through LS, teachers develop a collaborative and professional work environment. They share best practices, provide constructive feedback, and work together to design and improve lessons (Baricaua Gutierez, 2016). Cheng and Yee (2012) in their research found that during focus group interviews, teachers expressed appreciation that LS offers a structured system for professional development in the school context. Teachers also shared that their peers' observations of learning contributed directly to the richness of their critique because of the diversity of student thinking captured. They added that coworkers can also provide new perspectives when observing students.

Takahashi's (2014) research shows that the use of SBLS by Japanese educators is an effective way to application the new curriculum. SBLS initiatives involve active teacher participation through the development of research Lessons, wherein they devise and evaluate problem-solving strategies. In addition, instructors rotate through the logistical aspects of their peers' research learning, such as taking notes or facilitating discussions. By utilizing the expertise of a restricted number of seasoned educators, class group teams provide all teachers with entry to this knowledge for the purpose of lesson plan development. Through class group meetings, each teacher in the school has a minimum of two opportunities to provide feedback on the learning plans of other teams throughout the planning process. In SBLS, the school management structure must be changed (Saito & Atencio, 2015). According to Saito and Atencio (2015) to expand teachers' professional time and produce effective changes in their pedagogical practices, school leaders were tasked with reviewing and restructuring school administrative tasks.

School organizational change encompasses endeavors to reconfigure established methods of managing school assignments, professional development, and meetings. This may involve rearranging meetings, redesigning the workplace, and coordinating work in departments and teams (Admiraal et al., 2021). The implementation of School Academies was the most frequently mentioned change. Case studies to find out how SBLS is implemented in schools in Indonesia need to be carried out. This study helps reveal implementation information. The first aim of our study is to document how the SBLS implementation process works. The second aim is to analyze teacher and student responses to the implementation of SBLS.

METHOD

This research is survey research. The survey was conducted at one of the state high schools in Malang. This study was conducted to investigate how to implement lesson study

for learning communities. The data collection process was carried out by observation, interviews and administering questionnaires. Data collection was carried out in May 2024. Participants in this study were 33 students. They are 1 school principal, three Indonesian language subject teachers, and 29 class XI science students. A total of 16 male students and 13 female students. The students' ages range from 15 to 16 years.

The research instrument for the principal interview consists of six questions that examine the length of time working as a principal, number of teachers, length of time SBLS has been implemented in the school, motivation and process of implementing SBLS, as well as obstacles and challenges during the implementation of SBLS. The questionnaire for teachers consists of 11 questions with a scale of 1 - 5. The questionnaire for students consists of nine questions asking them to provide responses to the implementation of LS in their class. The student questionnaire uses five scales (1 – 5). Meanwhile, observations were made of student activities during LS.

Data analysis was carried out by narrating the results of the principal's interview, calculating the total scores obtained for the student and teacher questionnaires, then calculating the final score.

RESULTS AND DISCUSSION

Based on the results of the interview, the principal at the school where the survey took place began serving as an executor in 2019 and officially became principal in December 2023. The school he leads has 40 subject teachers. Implementation of LS in schools from the 2023-2024 school year. This was done because before serving at this school, the principal already had an interest in Lesson Study (LS) which he gained while participating in collaboration activities with Japan. The school principal's interest in LS is due to several benefits felt in planning, implementation and reflection activities carried out collaboratively. Lesson Study and Learning Study can be viewed as teacher-classroom interventions that include elements of collaboration, reflection, and professional development (Cheung & Wong, 2014).

Some of the benefits felt by school principals are: (a) LS activities are able to generate four teacher competencies at once, (b) LS can provide an equal climate so that there are no more comments that people in higher positions are arbitrary in implementing policies, (c) LS will make it a habit for every people receive input/comments from other people so they can improve themselves, (d) LS activities can teach that learning is never the best, but is always improved, (e) LS will make everyone aware that the more we observe the learning process carried out by other people, then our insight will increase according to reflection on the advantages and disadvantages of learning that we observe. Therefore, school principals began to implement LS at the school level by involving all subject teachers regardless of study background. The application of LS as a new approach in improving teacher professionalism requires a way for teachers to have an interest in implementing it. LS This has been implemented as a viable approach to support professional teacher development (Holmqvist, 2011).

The method used by school principals to increase teachers' interest in implementing LS is by becoming a model teacher and inviting teachers, especially those who teach in the field of biology, to observe the learning process they carry out in class. The school principal is a role model for developing teacher competency in his school (Putri et al., 2021; Singerin,

2024; Sukandar, 2018). The principal asked the teacher to provide input on the learning process being carried out. After they have seen and reflected on the learning activities that have been carried out by the principal, the teacher is then asked to carry out the learning that will be observed by the principal the following day. This activity is carried out until all teachers feel the benefits of LS. During activities, the principal tries to be equal to the teacher in carrying out learning so that no one feels inferior or superior. The principal even requires teachers to see their weaknesses in teaching. The principal at the start of implementing LS did not mention the name of the activity because he was worried that teachers would dislike the activity.

The name of the LS activity is only conveyed when the teacher feels comfortable and has benefited from the activity. Apart from the principal's strategy in arousing teachers' interest in implementing LS, the principal also created a strategy for implementing LS to help teachers find problems in the classroom before making a learning plan called OKE STAR. OKE STAR activities are carried out by teachers observing learning, classifying student characters, elaborating on all things found, providing solutions to learning, formulating challenges from the solutions implemented, taking action, namely implementing planning into the learning process, and reflecting on learning. A teaching program in a school will not run smoothly if the head manager is not qualified (Manaseh, 2016).

Based on the results of our survey on the implementation of LS in schools, it is clear that the activities were only just implemented at the school in 2023. However, the principal had been implementing LS activities long before he took office at the school. So that LS does not appear to be exerting pressure, the principal uses the OKE STAR method. The principal is the main support provider in LS and he plays a key role in the delivery of quality teaching (Ngang & Sam, 2015). School principals who provide attention, support and special time to the implementation of LS in their schools have an impact on increasing teacher collaboration (Dudley, 2019). In LS activities, teachers and principals are partners (Lee & Madden, 2019). Our survey results also found that school principals are embracing teachers in their schools to implement LS. Even though there were teachers who stated that they had difficulty at first, using OKE STAR made their burden less and they understood better what they had to do based on the initial observations they had made.

OKE STAR is an acronym for observation-*Observasi*, classification-*Klasifikasi*, elaboration-*Elaborasi*, solution-*Solusi*, challenge-*Tantangan*, action-*Aksi*, reflection-*Refleksi*. At the observation stage, teachers are asked to observe the students' condition during the learning process, whether the students experience difficulties, whether the students understand the lesson easily, what obstacles the students experience and even how the students feel when taking part in the lesson are observed. The classification stage is the stage where the teacher groups the problems found during observations and develops a priority scale for solving them. Furthermore, after being classified, the problems obtained during observations are elaborated with teachers in other study fields to get views and input. The views and input from the elaboration stage become solutions that will be used to improve learning. In developing a solution, it is necessary to consider the challenges that may be faced when implementing the solution later. The next stage is Action which is divided into the stages of planning and implementing learning. The final stage of OKE STAR

is reflection, at this stage a review of all OKE STAR series that have been implemented is carried out.

The planning stages in "Action" from the stages in OKE STAR are connected to the LS stages, namely "Plan" and implementation, namely "Do". In this activity, observations were made. The results of student observations showed that students were initially confused in the initial learning activities. However, this condition did not last long, this was because students were able to adjust to the observers in the class and the teacher guided students to find answers to questions in the student worksheet. Apart from that, worksheets created by teachers can enable students to work and exchange opinions on the meaning of diction found in the poetry presented, thus making students active in discussing and expressing their opinions. During the discussion, it turned out that in today's lesson there were two types of poetry presented, so that the six groups did not feel bored discussing just one poem. Students also don't get bored and are more active when discussing, this is because the teacher raises their hand to give groups who want to express their opinions a chance and the group gets points.

Observation notes:

- 1. At the beginning of learning, it begins with class preparation and morale checks. In preparation for learning, the teacher asks about the students' condition and reviews last week's meeting voluntarily. Apart from that, when students look weak the teacher will encourage them with shouts.
- 2. The teacher greets and prepares the students psychologically and physically. The teacher displays and explains the learning objectives to students.
- 3. The teacher displays pictures as a form of apperception for students. The teacher asks students to pay attention to the pictures, then try to sort the pictures.

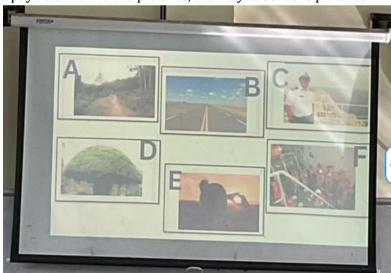


Fig. 1. Image of diction for poetry

- 4. A student is asked to come forward, then sort the pictures according to what the student has analyzed
- 5. The pictures displayed by the teacher and those sequenced by the students constitute one complete poem. A poem entitled humility by Aan Mansyur.

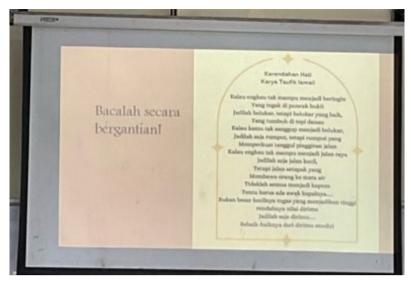


Fig. 2. Teacher's display of poetry

- 6. The teacher divides the students into groups by distributing cards that match the theme of the previous poem, namely grass, hills, ship crews, small roads, banyan trees, bushes. Each group leader is called a captain
- 7. Each group leader is given a student worksheet (SW). The question given by the teacher to students is to find the diction in each stanza of the poem and draw conclusions.
- 8. During learning, things you encounter include:
 - a. There is one child with the initials A, he is an active student but he sits at the back, so when student A answered he was not visible. When the teacher gives appreciation, student A always answers and does it by writing poetic verses according to the rules of poetry.
 - b. When students are less focused on learning, the teacher will randomly appoint students so that students focus on reading poetry.
 - c. The Awak Kapal Group has a group of 4 students, 2 girls and 2 boys. Student A is a very active student even though he is not the leader, he has initiative. Even though he is not very confident, A is a child who has lots of ideas. There was one student with the initials B who was sleepy at the beginning of the lesson. In this group, discussions were carried out very actively, but because there were too many ideas, it took longer, so it was a little difficult for them to reach a conclusion. Students make conclusions by discussing and each child expresses his opinion.
 - d. The Jalan Kecil group has four group members with 3 men and one woman. In making conclusions, not all students did it but only student C and one girl did it. Student D prepared to read poetry because the Jalan Kecil group wanted to move forward and was supported by their friends. This group felt that the teacher focused more on the left during questions and answers so that this group did not have the opportunity to answer, but this group did not give up.
- 9. Students in groups work together on the student worksheet given by the teacher
- 10. Students are asked to read the poetry on their student worksheet
- 11. The teacher reflects at the end of the lesson

After implementing the LS, we asked teachers and students to provide responses regarding the learning carried out that day. Results are presented in Tables 1 - 2.

Table 1. Teacher responses to the implementation of LS

No	Statement	Score
1	Lesson study can increase teacher creativity in preparing learning plans	93.33
2	The implementation of lesson study is interesting and fun	93.33
3	With LS it is easier for me to understand essential and non-essential material	93.33
4	Learning designed through LS is suitable for implementation in the classroom	93.33
5	LS can improve teachers' abilities in teaching	100
6	LS can improve the quality of learning	100
7	LS can increase collaboration between teachers	100
8	Teachers can develop teaching materials by collaborating with fellow teachers	100
9	Through LS teachers can develop interesting learning strategies/methods for students	100
10	Through LS, teachers can develop interesting learning media for students	93.33
11	Through LS teachers can create ideas for suggestions for further learning improvements	100

Based on the results of a questionnaire to subject teachers who implement LS, they agree that LS can improve creativity, be interesting and fun, increase understanding of material, improve pedagogical abilities, improve learning quality, increase collaboration, improve abilities in choosing appropriate teaching methods, preparing equipment and learning resources, and increasing teacher reflection abilities. These results indicate that LS has provided valuable experience for teachers in developing their professionalism.

The results of this teacher questionnaire indicate that LS can develop teacher professionalism. Willems and Van den Bossche (2019) stated that LS has an impact on teacher professionalism in terms of their knowledge, beliefs, skills and behavior. Our analysis of teacher questionnaires has indicated that they are better prepared to learn and their learning has improved when they implement LS activities, teachers who participate in LS realize the benefits of contributing significantly to their CPD (Continuing Professional Development), such as encouraging teacher exchange activities and helping them deepen their knowledge of lesson content, understand students' learning activities and work processes, and become better teachers (Nguyen et al., 2024).

Based on the results of a questionnaire to students, it was found that LS had made them feel that learning was more interesting, easier to understand lessons, improved performance and focused on learning. Apart from that, they think that with LS teachers are more diligent in teaching, master the material, support students' success and learning becomes efficient. In LS, students feel the learning climate has changed compared to usual (Ng & Latife, 2022). Learning in LS has been well designed during the "Plan" based on the

results of teacher observations of classroom learning. In its implementation, teachers, school principals and the research team have discussed good learning plans for students. When "Do" is done, students feel a different learning climate. Our observation results also show that students are no longer awkward when there are many observers in the learning class. This indicates that LS activities are often carried out at school.

Table 2. Student responses to LS implementation

No	Statement	Score
1	Learning becomes more interesting	98.62
2	The material is easier to understand	97.93
3	How to teach teachers better	98.62
4	Time is used efficiently	97.93
5	Teachers teach more diligently	100
6	Increase my study focus	97.93
7	Improve my performance	98.62
8	Teachers master the subject matter	100
9	The teacher provided adequate learning to support me	98.62
	in passing the exam	

CONCLUSION

The conclusion in this study is that the implementation of LS in schools has gone well. Students no longer look awkward when being observed and teachers are skilled at planning and reflecting on learning outcomes. The school principal is actively involved in LS activities by implementing the OKE STAR method. The response of teachers and students to learning that uses LS activities is very good.

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