



Community assistance for mover teachers through the lesson study-based opening class movement

Evi Suryawati ^{a,1,*}, S. Syafrinal ^{b,2}, Evfi Mahdiyah ^{c,3}, H. Hermandra ^{a,4}, Didi Muwardi ^{b,5}, Tengku Firli Musfar ^{d,6}

^a Faculty of Teacher Training and Education, University of Riau, Kampus Bina Widya, Tampan, Kota Pekanbaru, Riau 28293, Indonesia

^b Faculty of Agriculture, University of Riau, Kampus Bina Widya, Tampan, Kota Pekanbaru, Riau 28293, Indonesia

^c Faculty of Mathematics and Natural Sciences, University of Riau, Kampus Bina Widya, Tampan, Kota Pekanbaru, Riau 28293, Indonesia

^d Faculty of Economics and Business, University of Riau, Kampus Bina Widya, Tampan, Kota Pekanbaru, Riau 28293, Indonesia

¹ evi.suryawati@lecturer.unri.ac.id; ² syafrinal@lecturer.unri.ac.id; ³ evfi.mahdiyah@lecturer.unri.ac.id; ⁴ hermandra@lecturer.unri.ac.id;

⁵ didi.muwardi@lecturer.unri.ac.id; ⁶ tengkufirlimusfar@lecturer.unri.ac.id

* Corresponding author

ARTICLE INFO	ABSTRACT
<p>Article history Received: 2022-12-23 Revised: 2023-01-16 Accepted: 2023-01-19 Published: 2023-03-11</p> <p>Keywords Community assistance Lesson study Mover teachers Open class movement</p>	<p><i>The assistance for the Guru Penggerak (Mover Teachers) Community through the open class movement based on lesson study at SMPN 23 Pekanbaru was carried out from May to mid-September 2022, involving 32 teachers who acted as model teachers and observers. This assistance is carried out based on the Lesson Study (plan-do-see) stage. Implementation of the open class movement was conducted in four subjects: Science, Mathematics, English and Islam. In the Plan stage, the core team discusses lesson design, innovation, and agrees on a schedule and division of tasks. In the Do stage (open class), the model teacher carries out learning which is attended by observers and committee representatives. During learning activities, observers observe student learning activities. The See stage (reflection), the whole teams evaluate the implemented learning. The mentoring result show that students appear to be active and enthusiastic about learning. Teachers can work with colleagues to implement classroom learning by focusing on active, creative, effective, innovative, and fun learning. This Open Class Movement will be continued in five subjects so the entire community of subject teachers can work together in the learning community to improve the quality of learning in the Independent Curriculum Implementation, especially by the Mover Teachers.</i></p>
<p>Kata Kunci Gerakan buka kelas Lesson study Komunitas guru penggerak Pendampingan</p>	<p>Pendampingan komunitas guru penggerak melalui gerakan buka kelas berbasis lesson study. Pendampingan komunitas guru penggerak melalui gerakan buka kelas berbasis lesson study di SMPN 23 Pekanbaru dilaksanakan pada bulan Mei sampai dengan pertengahan September 2022. Pendampingan melibatkan 32 orang guru yang berperan sebagai guru model dan observer. Pendampingan dilakukan berdasarkan tahap Lesson Study (plan-do-see). Implementasi gerakan buka kelas pada empat mapel yaitu IPA, Matematika, Bahasa Inggris dan Agama Islam. Tahapan Plan tim inti mendiskusikan rancangan pembelajaran (lesson design), inovasi dan menyepakati jadwal serta pembagian tugas. Tahap do (buka kelas) Guru model melaksanakan pembelajaran dihadiri observer dan perwakilan komite. Selama pembelajaran observer mengamati aktivitas belajar siswa. Tahapan See (refleksi) oleh seluruh tim melakukan evaluasi terhadap pembelajaran yang telah dilaksanakan. Hasil pendampingan menunjukkan bahwa dari sisi siswa terlihat aktif dan antusias dalam mengikuti pembelajaran. Guru dapat berkolaborasi dengan teman sejawat melaksanakan pembelajaran di kelas dengan mengedepankan pembelajaran aktif, kreatif, efektif, inovatif, dan menyenangkan. Gerakan buka kelas ini akan dilanjutkan pada lima mapel sehingga seluruh komunitas guru mapel yang ada di SMPN 23 Pekanbaru dapat menjadi guru penggerak dan mampu bekerja sama dalam komunitas belajar untuk peningkatan kualitas pembelajaran dalam Implementasi Kurikulum Merdeka khususnya oleh Guru Penggerak di SMPN 23 Pekanbaru.</p>

Copyright © 2023, Suryawati et al
This is an open access article under the CC-BY-SA



How to cite: Suryawati, E., Syafrinal, S., Mahdiyah, E., Hermandra, H., Muwardi, D., & Musfar, T. F. (2023). Community assistance for mover teachers through the lesson study-based opening class movement. *Journal of Community Service and Empowerment*, 4(1), 196-204. <https://doi.org/10.22219/jcse/v4i1.23995>

INTRODUCTION

The efforts to improve the quality of education in Indonesia must be aligned with the efforts to improve the teachers' quality. Even though teachers are not the only party that has an important role in improving education quality, a teacher carries the most essential role in innovation. Improvement of education quality can start in a classroom through innovative learning processes. As a part of education, learning is the spearhead of determining whether or not educational goals are achieved. Thus, the quality of learning is closely related to the quality of education. Learning is a program that has the characteristics of being systematic, systemic and planned. Various components in learning include students, materials, methods, learning resources, teachers, and the interconnected and interdependent environment that take place in a planned and systemic manner. A program consists of a series of actions or events that have been planned and arranged through a well-established thinking process. Therefore, learning is a series of events that are systematic and systemic, which are designed and managed deliberately and carefully, so the learning processes apply.

Improving the quality of education can be initiated by improving the teachers' quality in teaching and behaving professionally. One of the forms is a teacher training. However, this frequently does not leave an imprint on the teacher's daily activities. This is what underlies the need for improvements that focus on real conditions in the field, starting from conditions in classrooms, schools and teachers. The effort of continuous improvement must begin from the bottom, not only from the school demand.

One model of a teacher development program to achieve learning quality in schools is lesson study. Lesson study is a model for teachers' development through collaborative and continuous learning assessment based on the principles of collegiality and mutual learning to build a learning community (Sumar, 2006; Suryaningtyas et al., 2014). Lesson Study is carried out in three stages, namely Plan (planning), Do (implementing), and See (reflecting). In other words, lesson study is a way to improve the education quality that never ends. Lesson study was first developed in Japan and became a well-known model in efforts to improve the quality of education through improving the quality of learning. Starting in 1995, lesson study spread to various countries, including the United States, through the activities of The Third International Mathematics and Science Study (TIMSS). In Indonesia, Lesson Study was developed through Indonesian Mathematics and Science Teacher Education Project (IMSTEP). The implementation started in 1998 in three IKIP (*Institut Keguruan dan Ilmu Pendidikan* – the Institute of Teachers Training and Education), which are IKIP Bandung (UPI), IKIP Yogyakarta (UNY), dan IKIP Malang (UM). This development program is also in partnership with Japan International Cooperation Agency (JICA).

Teachers' quality is a crucial factor that affects the academic quality (Anom, 2020; Hardianto, 2018; Mastra, 2019). The current problem is that Indonesia has many unresolved various problems, and one of the problems is the teachers. One of the teaching issues faced by Indonesia is the teachers' quality (Mangkunegara & Puspitasari, 2015; Sophuan, 2018; Susanto, 2012). Many teachers in Indonesia are not yet capable enough to teach the subjects they are in charge of. Many of them do not even have a linear educational background, and this issue will absolutely bring problems in the future. Understanding this situation, the Indonesian government has held a number of programs and efforts to assist teachers in improving their skills and abilities (Fani Prastikawati, et al., 2021; Khoeriyah et al., 2018; Rosy et al., 2018). To develop their professionalism, teachers can take several actions, such as attending seminars or teacher training, conducting research, continuing studies, participating in various activities related to improving the quality of education for students, etc. Another activity that can be applied as a solution to this problem is Lesson Study.

Lesson Study is believed to be successful in improving the practice of implementing learning where the teacher will plan, conduct, and reflect on the teaching that will be used as a further teaching improvement (Juano et al., 2019; Sarjani, 2020). Lesson Study is a collaborative process among teachers in identifying learning problems, planning a learning improvement, implementing learning, evaluating and revising the learning, teaching the revised learning, re-evaluating, and sharing (disseminating) the results with other teachers (Ahmadi et al., 2017; Hikmawati et al., 2018). Lesson Study is also interpreted as a professional process involving a communities of teachers who plan, observe, and improve their learning (Ario, 2018; Suryaningtyas et al., 2014).

Lesson study is a way to overcome the problem of implementing learning practices that have not been effective. The advantages of lesson study are that it can make students easier to understand what will be learned and improve the teaching method of the teachers (Nugroho et al., 2011; Nuraeni et al., 2017). The previous research states that lesson study is able to improve learning quality (Hidayat et al., 2019). Another research finding also states that the implementation of lesson study can improve teachers' teaching abilities (Effendi M, 2016).

Lesson study can function as an effort to implement in-service training programs for teachers. This effort is carried out collaboratively and continuously. Its implementation is in the classroom with the aim of understanding students better. Lesson study is carried out jointly among teachers. Lesson study is learning in a lesson. A teacher can learn about certain learning through existing learning displays (live/real or video recordings). Teachers can adopt to learning methods, techniques or strategies, use of media, and others, that are created by a performing teacher to be imitated or developed in their respective classes. Other teachers as observers need to do an analysis to find positive or negative sides of the lesson from minute to minute. The results of this analysis are needed as feedback for the performing teacher to improve. In addition, through this learning profile, the observing teachers can learn from learning innovations carried out by the other teachers.

The plan stage began with the model teacher and the core team together designed innovative learning that integrated PjBL-STEM. Teachers groups facilitated learning to produce innovative products. One of them was making a literacy garden from ecobricks by utilizing plastic waste. It is hoped that this product will motivate students to take 3R actions (Reduce, Reuse, Recycle). At SMPN 23 this environmental literacy movement is held every Saturday.

Despite its being a simple idea, lesson study is a complex process. Lesson study is a process that leads to teachers' collaboration in small groups to plan, teach, observe, review and report results on the implementation of individual teaching. The innovative teaching-learning process designed and developed in the lesson study is active, practical, fun, and effective. In practice, the lesson study activities are not instructive or patronizing, but they are conducted collaboratively between lecturers-teachers and teachers-teachers. This assistance activity for the teacher community aimed to increase the ability of teachers to design, implement and reflect on innovative, interactive and collaborative learning in learning communities based on lesson study stage.

METHOD

The assistance of the mover teacher (*guru penggerak*) community at SMPN 23 Pekanbaru took place from May to mid-September 2022. This assistance involved 32 teachers who acted as model teachers and observers. This assistance was based on lesson study, which includes Planning, Doing (implementing), and Seeing (reflecting) which was sustainable and continuous. The assistance schedule that had been implemented can be seen in the following table.

Table 1. Schedule of Lesson Study Assistance and Implementation

Stages	Day and Dates of Implementation	Location
Plan	Tuesday, 24 May 2022	SMP Negeri 23 Pekanbaru
Do	Thursday, 02 June 2022	SMP Negeri 23 Pekanbaru
See	Thursday, 02 June 2022	SMP Negeri 23 Pekanbaru

The first step was to plan a lesson that would be carried out in the classroom. This activity began with an analysis of the problems encountered in learning which could be in the form of subject matter or how to explain a concept, pedagogic aspects regarding appropriate learning methods that lead to effective and efficient lesson, or learning facilities that cover how to cope with the lack of learning facilities. Furthermore, teachers jointly searched for solutions to the problems that they face, then they included the solutions in the lesson plan, teaching materials (in the form of learning media and student worksheets), as well as evaluation methods.

Meetings were frequently held by the teachers in the context of doing the lesson-planning. As a result, it formed collegiality or partnerships between one teacher to another, so no superiority or inferiority of status resulted. They shared experiences and learned from each other. Therefore, through various activities within the framework of lesson study, it was expected that mutual learning situations would form, namely situations where these communities could learn from each other.

The second step in lesson study was the implementation (Do) of learning, which was to conduct the learning plans that had been jointly formulated in real classes. This step aimed to test the effectiveness of the learning model that has been designed. In this activity, one educator acted as a teacher, while another educator acted as an observer (observer) of the learning. The principal could also be involved in this activity as an activity guide and learning observer. The focus of the observation in lesson study was aimed at the interactions among students, between students and teaching materials, between students and teachers, and between students and their environment. The observer could record the learning activities through a video camera or digital photos for documentation purposes and further study material. The purpose of the observer's presence in the classroom, besides gathering information and evaluating the model teacher, was also to learn from the ongoing learning process.

The third step in this lesson study was to reflect (See). After the lesson was completed, a discussion was immediately held between the teacher who acted as the model teacher and the observer who was guided by the principal or designated personnel to discuss the learning activities that had been conducted. The model teacher began the discussion by conveying their impressions in carrying out the learning activities. Furthermore, observers were asked to deliver comments and the lessons learned from the conducted learning, especially with regard to student activities. Criticism and suggestions from observers must be delivered wisely and constructively. Conversely, model teachers should be able to receive input from observers for the improvement of subsequent learning. Based on the feedback in this discussion, the teacher could design a better lesson for the next occasion. In principle, everyone who was involved in lesson study activities must have obtained some learned lessons. Therefore, the impact was the establishment of a learning community through lesson study. The open class movement that had been carried out by teachers at SMPN 23 Pekanbaru was scheduled in the Table 2.

Table 2. Implementation Schedule of *Opening Class* Movement by Teachers of SMPN 23 Pekanbaru

Time/ Dates	Subjects/Models	Topic	Innovation	Observers
Thursday, 02 June 2022	Natural Science Teacher	Human Excretory System	STEM	<ul style="list-style-type: none"> • Afitrian Amran, S.Pd • M. Rofi Yunus, M.Kom • Yulfi, S.Pd • Erniliana, S.Pd
Friday, 05 August 2022	Islam Teacher	<i>Fardhu Kifayah Jenazah</i> Commemoration	Directed Learning	<ul style="list-style-type: none"> • Sri Wahyuni, M.Pd • Nur Hasni, S.Pd.I • Iftitahurrahmi, S.Pd • Maryani, S.Pd • Hj.Erniwiyanti, S.Pd
Tuesday, 23 August 2022	Mathematics Teacher	Cartesian coordinates	STEM	<ul style="list-style-type: none"> • Yustisiana, S.Pd • Nelli Susanti, S.Pd • Wirdahena, S.Pd • Julmis Akbar, S.Pd • Arita Martati, S.Pt • Rahmi Sustru, S.Kom • M.Afis T, SH
Monday, 05 September 2022	English Teacher	Expression of Agreement and Disagreement	STEM	<ul style="list-style-type: none"> • Yessi Putri, S.Pd • Rini Noviyanti, S.Pd • Dra. Deva Susila • Igustirawaty, S.Sn • Anisa Ramadhani, S.Pd • M. Rofi Yunus, S.Kom • Hartati, S.Pd • Satialisa, S.P

RESULTS AND DISCUSSION

Lesson Study is one of the teacher professional development strategies. Group teachers develop learning together. A teacher acts as a model teacher in carrying out learning. Meanwhile, other teachers observe the student learning process. This process is carried out during the learning process. The open-class movement at SMPN 23 was held from June to August 2022. The total number of teachers provided with assistance was 32 teachers with the profiles in the Table 3.

Table 3. Teachers' Profile

No	Profiles	N (%)
1	Male Teachers	4 (12.5)
2	Female Teachers	28 (87.5)
3	Employment Status (Civil Servant)	22 (68.8)
4	Employment Status (Non-Civil Servant)	10 (31.2)
5	Certified Teachers	20 (62.5)

The results of the lesson study activities carried out at SMPN 23 are the mentoring of the mover teacher community at this school starting from the Plan, Do, and See stages. Lesson study activities start from the planning stage which aims to design learning that can teach students how to enable students to actively participate in the learning process. A good planning is not done alone but done together. Several teachers can collaborate to enrich learning design ideas

Planning begins with an analysis of the problems encountered in learning. Problems can be in the form of subject matter, misconceptions, and pedagogic issues. The pedagogic issues refer to how to develop appropriate learning methods so that learning is more effective and efficient. Another problem is about facility problems, namely how to get around the lack of learning facilities. Furthermore, the teachers jointly look for solutions to the problems faced which are outlined in the lesson plan, teaching materials in the form of learning media and student worksheets as well as evaluation methods. Learning design activities can be seen in the Figure 1.



Figure 1. Designing Lesson Plans (*Lesson Design of Science Subject for Science Class, Grade VIII*)

The Plan stage is assisting teachers to design learning that can encourage students to learn in a pleasant atmosphere, so that the desired goals can be achieved effectively through active and creative learning activities. Good planning is not done alone but done together. Several teachers collaborated in this activity, so that the ideas developed were more varied. In the Plan activities it is agreed that it will be carried out in the Do stage (Figure 2).



Figure 2. Open Class Activities (Do) for Human Excretory System Material

The open class movement was carried out by the teacher at the Do stage by implementing learning innovations that had been designed with the core team. The learning process was observed by fellow teachers as observers. Learning was carried out using student-centered learning and students were actively involved in learning. At the end of learning students presented the results of their learning. In closing the implementation activities, students wrote down their impressions after participating in learning. The students felt that learning is more fun and students became more enthusiastic in learning. The observer teacher observed and made notes as input on the learning carried out by the teacher and students during learning activities. Students showed their learning outcomes in each class opening movement as seen in Figure 3 and Figure 4.



Figure 3. STEM Project: Student's learning outcome presentation



Figure 4. Presentation of students' learning outcomes by the students' of the Movement to open the class of Mathematics Subject

The opening class movement was also attended by the parents of the students. They see directly the process of student activities participating in learning with the teacher. With the open class movement, parents have the opportunity to provide input on learning and appreciate learning innovations that have been implemented by teachers. The open class movement attended by parents of students can be seen in Figure 5.



Figure 5. Open Class Movement for the practice of washing death bodies (*jenazah*) attended by the chairman of the committee as a parent representative

The See stage was carried out by reflection after the class opening movement is done. Students' activities that have been observed by observer teachers in learning activities are expressed by each observer teacher. The observer teacher said that it was seen that students were more enthusiastic about participating in learning and were more responsible for completing assignments given by the teacher. The observer teachers also exchange constructive opinions in order to improve learning in the next class open movement. Reflection activities after learning can be seen in Figure 6.



Figure 6. Reflection activities after learning

Assistance for the Open Class Movement at SMPN 23 Pekanbaru is very beneficial for teachers. Teachers have been assisted in planning, implementing and evaluating the learning so that they could design and produce and interesting

learning. The teacher observers provided input to the teacher and student learning activities. This activity will build a community of practice. Students are also enthusiastic in learning and give their impressions during learning.

Teaching and learning activities become interesting for teachers with preparation and implementation based on lesson study. At the end of the activity, the teachers gathered and asked questions about the lessons learned, revised and arranged the next lesson based on the results of the discussion. Through this open-class movement, teachers' self-directed learning skills are also trained in planning, implementing and reflecting on learning. The results of self-directed learning for SMPN 23 Pekanbaru teachers after receiving assistance based on gender can be seen in Figure 7.

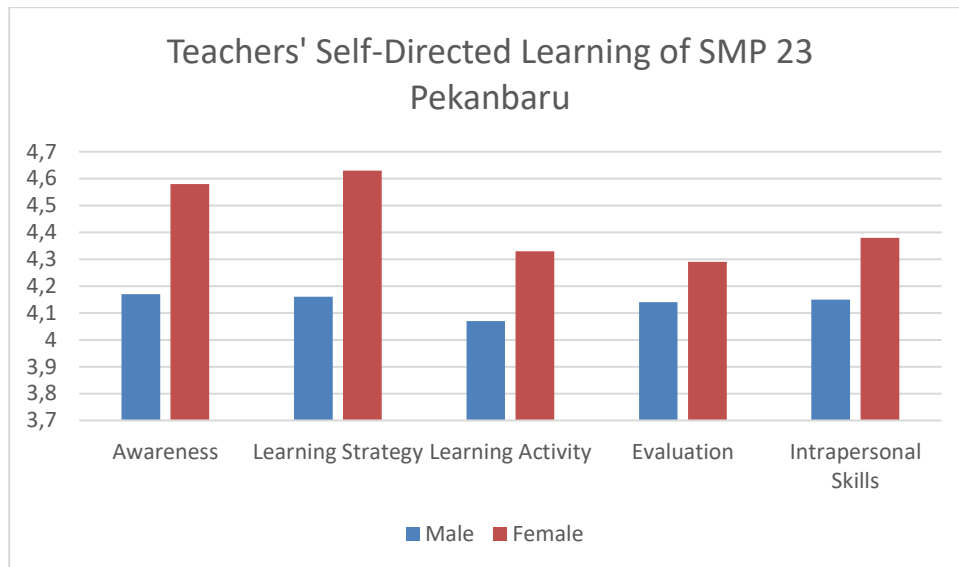


Figure 7. Average score of teachers' self-directed learning by gender

Figure 7 shows that the awareness aspect of male teachers gets a score of 4.17, and that of female teachers gets a score of 4.58; the learning strategy of male teachers shows a score of 4.16 and that of female teachers is 4.63; learning activities for male teachers score is 4.07 and female teachers is 4.33; the evaluation aspect of male teachers shows a score of 4.14 and 4.29 for female teachers; the interpersonal skill aspect of male teachers shows a value of 4.15 and 4.58 for female teachers, the average score of Self-Directed Learning of female teachers was higher. According to Bayındır & Dagal (2016) self-directed learning known as self-planned learning, self-education, self-regulative learning, independent learning and open learning. It refers to a process whereby taking individual responsibility by controlling cognitive (self-monitoring) and contextual processes (self-management). Overall it was found that the teacher's self-directed learning was in the low category. This shows that teachers still need ongoing assistance to improve their performance as professional teachers. The continued empowerment of the learning community, especially at SMPN 23 which has been and will be carried out with various activities to support the school literacy movement by making information barcodes on plants around schools, growing mini rice fields, various ecobrick-based ergonomic working tools like tables, chairs, etc (Figure 8).



Figure 8. (a) Processing of plastic waste into ecobricks; (b) Ecobricks; (c) Literacy garden from ecobricks at SMPN 23 Pekanbaru.

CONCLUSION

Assistance to teachers at SMPN 23 Pekanbaru based on lesson study has been found very useful for improving and transforming the learning and teaching strategies from both teachers and students. This assistance is expected to improve the instructional quality at this school. The students were actively involved and enthusiastic in every activity provided by the teacher. It has been observed that they had no significant difficulties. Teachers can collaborate with colleagues to carry out learning in class by prioritizing active, creative, effective, innovative, and fun learning. The open-class movement will be continuously carried out so that the entire subject teacher community at SMPN 23 Pekanbaru can become mover teachers and be able to work together in the learning community to improve the quality of learning in the implementation of the Independent Curriculum, especially by the Mover Teachers at SMPN 23 Pekanbaru.

ACKNOWLEDGEMENT

We would like to thank Universitas Riau that has funded this project through DIPA LPPM-PIU AKSI ADB following the agreement on the implementation of the activity No. 1669/UN.19.5.1.3/PT.01.03/2022 under the Scheme of Campus Intellectual Product Business Program. We also thank our partners, schools, and all related parties who have supported and assisted the implementation of this community service activity.

REFERENCES

- Ahmadi, F., & Hamang, N. (2017). *Penerapan Lesson Study Dalam Meningkatkan Kompetensi Guru Dan Implikasinya Terhadap Kualitas Pembelajaran Fiqih. Istiqra: Jurnal Pendidikan dan Pemikiran Islam*, 4(2).
- Anom, G. A. (2020). Supervisi Edukatif Untuk Meningkatkan Kemampuan Guru dalam Pembelajaran di SD. *Jurnal Ilmiah Sekolah Dasar*, 4(2), 221–228.
- Ario, M. (2018). *Implementasi Lesson Study Untuk Menumbuhkan Keaktifan Belajar Dan Kerjasama Mahasiswa. Jurnal Absis: Jurnal Pendidikan Matematika dan Matematika*, 1(1), 1-11.
- Bayindir, D., & Dağal, A. B. (2016). The Investigation of the Relationship between the Level of Metacognitive Awareness, Self-directed Learning Readiness and Academic Achievement of Preschool Teacher Candidates. *Universal Journal of Educational Research*, 4(11), 2533–2540. <https://doi.org/10.13189/ujer.2016.041106>
- Effendi M. (2016). Penerapan Lesson Study dalam Meningkatkan Kemampuan Mengajar Guru Bahasa Inggris pada Madrasah Tsanawiyah Negeri Model Sorong. In *Journal of Islamic Education Policy*, 1(2).
- Fani Prastikawati, E., Wiyaka, W., & Cicik Sophia Budiman, T. (2021). Pelatihan Penyusunan Soal Bahasa Inggris Berbasis HOTS bagi Guru Bahasa Inggris SMP. *Jurnal Pengabdian Pada Masyarakat*, 6(1), 47–54. <https://doi.org/10.30653/002.202161.761>
- Hardianto. (2018). Optimalisasi Kepuasan Kerja Guru. *Jurnal Manajemen Pendidikan*, 5(2), 190–195.
- Hidayat, S., Agusta, E., Siroj, R. A., & Hastiana, Y. (2019). Lesson Study & Project Based Learning sebagai Upaya Membentuk Forum Diskusi dan Perbaikan Kualitas Pembelajaran Guru IPA. *Jurnal Pengabdian Kepada Masyarakat (Indonesian Journal of Community Engagement)*, 4(2), 171–178. <https://doi.org/10.22146/jpkm.31423>
- Hikmawati, Jufri, A. W., & Sutrio. (2018). Simulasi Kegiatan Lesson Study sebagai Upaya Untuk Mengembangkan Profesionalisme Pendidik. *Jurnal Pendidikan Dan Pengabdian Masyarakat*, 1(2), 215–222.
- Juano, A., Ntelok, Z. R. E., & Jediut, M. (2019). Lesson Study Sebagai Inovasi Untuk Peningkatan Kualitas Pembelajaran. *Jurnal Pengabdian Masyarakat*, 2(2), 126-136.
- Khoeriyah, N., & Mawardi, M. (2018). Penerapan Desain Pembelajaran Tematik Integratif Alternatif Berbasis Kearifan Lokal untuk Meningkatkan Hasil dan Kebermaknaan Belajar. *Mimbar Sekolah Dasar*, 5(2), 63. <https://doi.org/10.17509/mimbar-sd.v5i2.11444>
- Mangkunegara, A. A. A. P., & Puspitasari, M. (2015). Kecerdasan Emosi Guru, Stres Kerja, Dan Kinerja Guru Sma. *Jurnal Kependidikan: Penelitian Inovasi Pembelajaran*, 45(2).
- Mastra, I. N. (2019). *Jurnal Ilmiah Mandala Education. Jurnal Ilmiah Mandala Education*, 5(2), 26–36.
- Nugroho, L. P. A., & Hendayana, S. (2011). Penerapan Lesson Study Berbasis Sekolah untuk Melaksanakan Supervisi Akademik Pembelajaran Fisika di SMA. *Jurnal Penelitian Pembelajaran Fisika*, 2(1).
- Nuraeni, D., Utaya, S., & Akbar, S. (2017). Aktivitas Belajar Dalam Pembelajaran Inside-Outside Circle Melalui Lesson Study Pada Kelas V SD. *Jurnal Pendidikan: Teori Penelitian dan Pengembangan*, 2(9), 1175-1181.
- Rosy, B., Ranu, M. E., Nugraha, J., & Handini, H. T. (2018). Pelatihan Media Pembelajaran Berbasis E-Learning, Schoology Bagi Guru SMK Program Keahlian Administrasi Perkantoran Di Kabupaten Jombang Jawa Timur. *Jurnal Pemberdayaan Masyarakat Madani (JPMM)*, 2(2), 174–185. <https://doi.org/10.21009/jpmm.002.2.02>

- Sarjani, T. M. (2020). Penerapan Lesson Study Untuk Meningkatkan Kompetensi Guru di MGMP Biologi Langsa. *Best Journal (Biology Education, Sains and Technology)*, 3(2), 62-68
- Sophuan, S. (2018). Peningkatan Keterampilan Mengajar Guru Smp Mata Pelajaran Ipa Dalam Menerapkan Pendekatan Saintifik. *Tadrib: Jurnal Pendidikan Agama Islam*, 3(2), 335–355.
<https://doi.org/10.19109/tadrib.v4i2.2860>
- Sumar, H. (2006). *Lesson Study: Suatu Strategi untuk Meningkatkan Keprofesionalan Pendidik (Pengalaman IMSTEP-JICA)*. Bandung: UPI Press.
- Suryaningtyas, W., Suprpti, E., Solikin, A., & Shoffa, S. (2014). Implementasi Lesson Study Berbasis Karakter Pada Mata Kuliah Statistika Dasar Dengan Menggunakan Media 'GABUZ'. *Jurnal Pendidikan dan Ilmu Pengetahuan*, 14(1), 45-65.
- Susanto, H. (2012). *Faktor-Faktor Yang Mempengaruhi Kinerja Guru Sekolah Menengah Kejuruan The Factors Of Affecting The Performance Of The Teachers' Of State Vocational High School*. *Jurnal Pendidikan Vokasi*, 2(2).