



A Review of Collaborative Learning Models Based on Lesson Study

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Abstract

Improving learning quality is essential in all areas of education. The absence of chances for teacher collaboration renders educational institutions monotonous and unmanageable. The objective of this paper is to provide insight into the development of collaborative learning model research, as well as its use and evaluation, and to serve as a reference for higher education educators (lecturers) who are interested in implementing PDS programs using lesson study-based collaborative learning models. Collaboration between teachers and lecturers on basic skills can begin with the process of developing or organizing lesson plans, identifying the subject to be studied, and then selecting the methods, techniques, and strategic approaches that will be implemented in the learning process. A reflection journal is a method of collaborative assessment between teachers and lecturers. A reflection journal is a written record featuring the components that occur throughout teaching and learning activities. The reflection process is used to examine all the teaching activities in the classroom.

Keywords: Lecturer-Teacher, Collaborative Learning, Teaching and Learning, Lesson Study, Reflective Journal

Introduction

In general, education strives to produce competent and professional human resources who will subsequently be able to fulfill numerous fields in the process of transforming a country into a developed country. The lack of professional teachers is one of the contributing factors of Indonesia's low educational quality (Revina et al., 2020). Although teachers are not the primary determinants of educational success, the learning process is the focal point of education. In this case, it is the teacher who directs the learning process for students. According to paragraph 14 of Law No. 14 of 2005 Concerning teachers and lecturers, the Education Personnel Educator Institution (*Lembaga Pendidik Tenaga Kependidikan* - LPTK) is an academic organization entrusted by the government with organizing a program for educating prospective teachers in early childhood education,

formal education, basic education, or secondary education, as well as organizing and developing educational and non-educational knowledge (Presiden RI, 2005).

Improving learning quality is essential in the realm of education. The absence of space for teacher collaboration renders the teaching system boring and unmanageable. When teachers do not have partners or teaching partners, it is difficult for them to reflect on their learning. Collaboration can take place between teachers or even between teachers and lecturers. Lecturers who organize education at the LPTK institutional level become real subjects for joining partners or collaboration partners. Because teachers have the most direct interaction with students in the education or learning process in school educational institutions, the quality of teacher performance will largely affect the quality of educational outcomes (Srnalia, 2015). Meanwhile, one issue contributing to low teacher professionalism is the potential that universities produce random or half-finished teachers without considering their appropriate output in the field (Mulyasa, 2013).

Lecturer to School Assignment Program (*Program Penugasan Dosen ke Sekolah - PDS*) allows teachers and lecturers to collaborate. PDS is an activity which helps LPTK and the partnering schools (Susilowati, 2020). PDS is a government-sponsored program designed to improve the quality of learning in schools and at LPTK. The primary objectives of implementing the PDS program include, among other things, forming collaboration between teachers and lecturers in preparing learning tools, implementing assistance in the implementation of learning between teachers and lecturers, revitalizing the role of LPTK, and creating partnerships between schools and LPTK (Fitria et al., 2018; Rakian, 2020).

Lecturers at schools who serve as educators or teachers must have practical experience with classroom learning environments. Considering the importance of direct learning experience at school for lecturers, the Directorate of Learning of the Indonesian Ministry of Research, Technology, and Higher Education (RISTEKDIKTI) supports the (*Penugasan Dosen di Sekolah - PDS*) 'assigned lecturer to school' program. According to Eliasa (2014, p. 199), collaborative skill is the ability or maturity of competences and skills used by a group of individuals to work together to attain learning goals. Barkley et al., (2014) in their book *Collaborative learning techniques: A handbook for college faculty*, emphasized that collaborating involves working with others, whereas collaborative learning practices entail working in pairs or small groups to attain shared learning objectives. Collaborative learning involves gaining knowledge in groups rather than independently (Jones, 2014, p. 4). The process of implementing collaborative learning is reflected in the following chart.

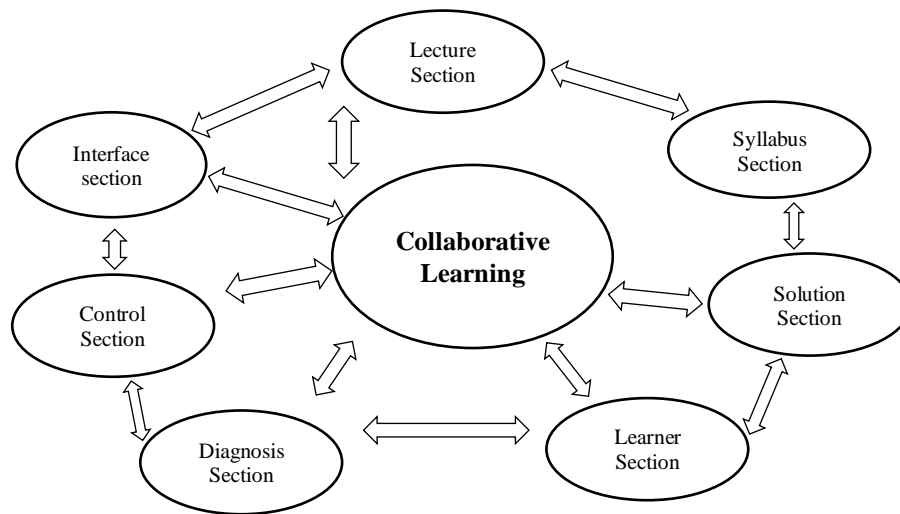


Figure 1: Collaborative learning chart (Barkley et al., 2014)

Based on the above chart, collaborative learning groups are formed and develop in many different ways to achieve goals where individuals get together within social contexts, cooperate to perform tasks, or join chosen committees with common interests (Barkley et al., 2014). Collaboration implementation is conducted in a number of ways. The educational materials developed in this program include the syllabus and learning implementation plan for a number of basic skills previously addressed by partner teachers and implementing lecturers. Thus, this learning method is the end result of discussions between implementing lecturers and partnering teachers, which took into consideration both educators' knowledge and experience in related subject. Several factors must be considered when developing this learning plan, including the level of difficulty of the teaching material, learning methods and strategies that must be able to actively engage students, the allocation of available time, and tasks that can improve students' skills, as well as student characteristics. Lecturers are directly involved in the teaching and learning process at school which is done in an effort to offer them with real-world experience in good learning relevant to the demands of school-based learning quality.

Methods

This study uses a descriptive qualitative methodology to examine the collaborative dynamics between lecturers and teachers in carrying out Lesson Study as part of the Lecturer to School Task Program (PDS). This methodology facilitates extensive data acquisition through direct observation, interviews, and reflective diaries to understand the

collaborative process as a whole (Creswell, 2014; Patton, 2023). The research follows the Lesson Study cycle, which consists of three main stages: Plan, Do, and See. Each cycle strives to ensure learning requirements, implement collectively developed lesson plans, and assess their efficacy for continuous improvement. The repetitive cycle facilitates the systematic improvement of pedagogical methods. The research participants were 10 lecturers from teacher education institutions (LPTK) and 15 partner teachers from schools in Semarang, Central Java. Schools are selected based on their readiness to engage in PDS programs and their capacity to serve as a representative collaborative learning environment. The methodology consists of three sequential phases: (1) Planning, which requires the identification of educational needs, the collaborative formulation of lesson plans (RPP), and the selection of appropriate pedagogical methods and media; (2) Conducting, where the plan is made collaboratively implemented in the classroom by the educator, with supervision and support from lecturers; and (3) See, which involves reflective discussions to assess strengths, weaknesses, and recommendations for future iterations.



Figure 2: Research cycle framework

The utilized instruments comprised reflective diaries for documenting collaborative processes, observation sheets for monitoring classroom activities, and in-

depth interviews to collect participants' ideas. The data analysis utilized thematic analysis to discern significant patterns and themes from the observations, interviews, and reflective diaries. Validation was achieved using triangulation, including many data sources to confirm correctness and consistency. Ethical issues encompassed participant confidentiality and informed permission, guaranteeing compliance with research ethics during the investigation. This workflow emphasizes an iterative approach that facilitates ongoing enhancement in cooperation and instructional quality via systematic reflection and modification.

Result and Discussion

Collaborative Learning Based on Lesson Study

How can teachers and lecturers increase their competency to become professional educators in their various educational institutions? It can provide a solution as lesson study is a model of professional development for teachers or lecturers through collaborative and continuous learning assessment based on the concepts of collegiality and reciprocal learning to form a learning community. Lesson study helps teachers collectively by first examining barriers to learning in terms of both teaching materials and learning methods. Furthermore, teachers work together to find issues and create innovative, student-centered learning. The following step is for one teacher to apply learning in class while another teacher acts as an observer (observing students' and teachers' actions), and then to continue with post-learning discussions to reflect on it. If the principles of lesson study are implemented systemically and sustainably, the quality of education in Indonesia could improve.

LS is a model for teacher development focusing on improving teacher performance. This is done jointly by a group of teachers in order to improve teacher performance. LS is not a learning technique or strategy, but rather an activity of implementing learning methods or strategies that are suited to the teacher's position, conditions, and difficulties. LS is a teacher professional development model implemented in stages. According to Mulyana (2019), there are four stages of implementation. The first is *the planning stage*, in which teachers who are members of LS cooperate to create student-centered lesson plans. The planning process begins with an evaluation of the needs and difficulties observed (basic skills, learning activities, and solutions for addressing a shortage of learning facilities). Teachers work with observers to resolve issues that were previously identified. Teachers are expected to be able to consider the components of generating lesson plans to be applied to learning based on this analysis.; (b) *The implementation stage*, which involves two activities: learning implementation activities carried out by a teacher who consented or is driven to set the RPP into effect, and activities carried out by observers through observing learning activities; (c) *Reflection Stage*, which

is a discussion stage led by the chairman and attended by all LS participants. The discussion began with sharing the impressions of the teachers who implemented the learning into practice. Then, the audience respond or provide ideas about the learning. The submission is accompanied by evidence derived from observations instead of opinion. This is meant to help students study more effectively. (d) *The follow-up stage* is the stage in which LS activities are followed up immediately. Follow-up in order to improve the next learning process (Baricaua Gutierrez, 2016).

Despite its simplicity, lesson study is a complex process. Lesson study is a method in which teachers work in small groups to design, teach, observe, review, and report on the results for use in individual teaching. This lesson study activity's learning process innovations are active, practical, engaging, and effective. This lesson study activity is carried out collectively by lecturers and teachers, and tutors and practical teachers, and is neither informative nor patronizing in its implementation. To achieve optimal results in lesson study activities, individuals need to collaborate together, including study teachers, school principals, and educational practitioner lecturers. Implementing collegial collective lesson study can improve teachers' knowledge in preparing effective learning plans through chapter and lesson design, improving learning process management by creating an active, creative, effective, innovative, and fun learning environment, utilizing learning media that is relevant to indicators of learning achievement, and the accuracy of learning evaluation instruments in measuring student achievement.

Lecturer-Teacher Collaboration Implementation Forms

Forms of collaboration between teachers and lecturers in PDS activities include: a) collaboration in preparing learning implementation plans (RPP), b) collaboration in preparing learning media, c) collaboration in preparing interactive teaching materials, d) collaboration in preparing learning reflection materials in order to produce best practices. The implementation of this collaboration is intended to become a means for improving the quality of learning in schools. Collaboration in preparing teaching materials between teachers and lecturers is carried out in an effort to prevent the monotonous of learning implementation. The given instructional materials are more tailored to the features and habits of students at school. Teachers and lecturers strive to create teaching materials that are distinct from textbooks so that students are motivated and are not bored with conventional educational materials.

Teachers and lecturers can collaborate by sharing ideas, working together, communicating, collaborating, brainstorming, and building a learning community (Dellia et al., 2023; Wennergren & Blossing, 2017, p. 48). These activities are permissible as long as teachers and lecturers are collaborating to improve the quality of learning in schools (Rasmitadila et al., 2022). Collaboration between teachers and lecturers is collaboration

related to learning tools. Learning tools are a form of preparation carried out by teachers prior to the learning process. A set of media or facilities used by teachers and students in the classroom learning process, a series of learning materials that must be developed by a teacher in facing classroom learning (Anonim,2013). Nguyen (2022, p. 4) explained that the objective of learning tools is to enable it easier for teachers to carry out or manage learning activities in the classroom. Teachers' learning tools include syllabus and lesson plans, teaching materials, learning media, and assessments. Collaboration on learning tools include working collaboratively on developing lesson plans, learning materials, and teaching resources.

The activity of interpreting the basic skills that will be covered begins the collaboration to develop the RPP. Teachers and lecturers share their perspectives on how to perceive the fundamental competences that will be taught to students at school. Teachers and lecturers establish approaches, methods, procedures, and tactics for delivering the subject after defining the material to be taught. Following that, teachers and lecturers design learning activities based on the curriculum criteria. The selection of interactive media is the first step in collaborating on the creation of learning media. Third parties who are familiar with the use of interactive learning media can help with the use of interactive learning media. One of them is the use of electronic learning media. Teachers and lecturers, with the help of third parties, organize learning implementation through the use of E-Learning media (Krismadinata et al., 2019; Sanuaka et al., 2017; Wibowo et al., 2023).

For example, the collaboration procedure described above is designed specifically for collaboration in Indonesian language subjects. Indonesian courses in language are required in school. Students learning Indonesian are expected to have appropriate language skills in terms of listening, speaking, reading, and writing. Language proficiency is essential in the workplace, so improvements in the quality of learning must be accomplished. This shows the importance of collaborative learning in Indonesian language subject. Hawanti (2014) observed that students learning Indonesian in schools should pay attention to the curriculum, books, and teachers who carry out the instruction. Learning Indonesian in classrooms still faces numerous challenges. Learning is primarily an activity that produces skills, and there is an elaboration process in an attempt to find meaning.

Collaborative Learning based on Lesson Study in Indonesian Language Subjects

Lesson study is an ideal collaborative learning approach because it corresponds with the objective of implementing PDS, which leads to increased collaborative abilities. Lesson Study is a paradigm for professional development in teaching which is founded on the principles of collegiality and mutual learning, as well as the creation of a learning community (Tsukui & Murase, 2018). Lesson study is an approach for continuously and collaboratively improving the learning process and outcomes (Inprasitha, 2022), the

methodical development of teacher professional competency in Japan's educational system with the main objective of improving and increasing the learning process effectiveness (Tsukui & Murase, 2018). According to Ratnaningsih (2019, p. 22), collaborative activities between professors and lecturers can include sharing ideas/opinions, collaboration, discussion, interaction, brainstorming, and developing a learning community. Collaborative learning includes five components to attain optimal results. Positive interdependence, individual accountability, the opportunity to communicate, meet face to face, and evaluate as a group are among the five features (Sulistyawati & Zuchdi, 2016).

The lesson study learning steps indicate these five elements. The steps for implementing lesson study are as follows: *plan*, *do*, and *see* (Lewis et al., 2019). **Plan** is designing learning process which is done prior to beginning the learning process. **Do** is the implementation of the learning process. **Do** occurs as an implementation of plan both within and outside of the classroom. **See** is a reflection or evaluation of the learning process, which is completed at the end of the lesson. Teachers do evaluations and reflections after making observations during the learning process and analyzing lessons learned. The following is a plan for lesson study cycle activities.

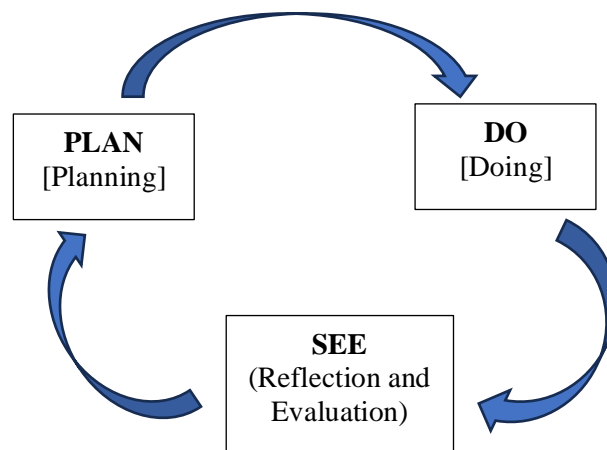


Figure 2: The lesson study cycle activities

Collaboration between teachers and lecturers can take the form of working collaboratively to create lesson plans, teaching media, teaching resources, and learning assessments. Collaboration between teachers and lecturers begins at the end of each meeting with the planning, implementation, and assessment process. This type of collaboration is the same as the type of collaboration used in the implementation of Lesson Study. Collaborative planning is used in the preparation of lesson plans, as well as the preparation of teaching media and teaching materials that will be provided. Collaborative

implementation is used in the classroom in the form of team teaching or the practice of teaching together. Furthermore, assessment collaboration is used in the form of a reflection journal at the end of each meeting. Teachers and lecturers discuss and fill out reflection journals to evaluate the efficiency and ineffectiveness of applying learning so that it can be used as material for reflection at the next meeting.

The PDS requires lecturers to commit to obtaining experience and eventually become teachers in collaborating schools. Being a school teacher in an academic capacity is a novel experience. Lecturers must be able to adapt to a variety of events that arise in schools. Assigning lecturers to schools can create additional issues for partner schools, such as whether the lecturers on duty will be able to adapt to a work environment that is completely distinct from their university tasks.

Implementing the Collaboration

Collaboration on basic skills between teachers and lecturers can begin with the process of creating or preparing lesson plans and can extend to a number of necessary sessions. The process of identifying the content to be researched is the first step in collaboration. Next, decide on the methods, strategies, and tactical strategies that will be used in the learning process. The formulation of implementation time allocation is also an important aspect of this collaboration that will be covered. The results of the first meeting's collaborative planning were organized into three sections: introductory, core, and closing.

The teacher performs learning stages such as: a) students praying together as a form of religious character values; b) students being given appreciation for the content to be discussed as a form of the character value of inquiry. The teacher organizes learning processes in the core section, which include: a) students being given reading material as a type of literacy character values; and b) students being divided into multiple groups. This is done in line with the character value of cooperation; c) students discuss to solve problems as a type of critical thinking character values; d) students discuss in groups to determine the linguistic characteristics of the material provided. This activity is carried out to provide character values in the form of critical thinking; e) students as delegates from each group report the results of their work. This is a communicative character value action. In the final section, the learning activity phases are as follows: students in groups complete the content they have studied. The task is carried out as a type of creative character values.

When collaborating on PDS activities using the lesson study model, collegiality and mutual learning principles are used (Cajkler et al., 2013, p. 542). In other words, participants in lesson study activities should not feel superior, wisest, or inferior, but all participants in lesson study-based PDS activities should be intended to learn from one another. Participants who already understand or have more information must be willing to share with those who have no comprehension, and those who are unsure must be willing

to ask questions of those who do. In the Lesson Study forum, resource people have to act as facilitators rather than teachers. The facilitator must be able to inspire participants to reach their maximum potential to ensure every individual can improve together.

Using PDS to implement learning delivers fresh experiences for partner teachers and lecturers. The evaluation of learning implementation in the implementation of PDS for lecturers begins with observations of PDS lecturers during learning. Lecturers always begin by outlining the objectives that must be met. The teacher then motivates students by outlining the benefits of the lessons they will learn. The teacher questions students about their initial understanding of the content. Lecturers engage in activities that promote meaningful learning. Design orientation and learning evaluation are important elements of meaningful learning. Learning designed for analyzing students' learning problems is based on prior knowledge and is targeted to actual-life situations. Prior knowledge and extensive review, project-based individual work, collaborative problem solving, and cooperative work in small groups are all used to empower learning. These efforts are a key element of PDS lecturers' constructivist approach to governing classroom learning.

Assessing the Collaboration

The PDS program must be evaluated through a series of measures carried out deliberately and carefully to establish the level of implementation or success, so that it can be used as a basis for making decisions and adopting policies that will be adopted later by partner schools. Furthermore, to determine the implications of implementing PDS, the evaluation stage comprises measurement and assessment, which can be performed through a variety of ways, such as interviews, observations, or providing questionnaires to teachers and lecturers. Measurement according to Mehrens and Lehman (1987, p. 38) includes a broader idea, especially the measurement of an individual's characteristics by observation, an average scale, or other methods which can provide quantitative information. Leighton & Gierl (2007, p. 4) indicated that measuring is the act of systematically determining numbers that describe certain situations or meanings, whether in the form of things, individual conditions, or events. The results can be evaluated using both quantitative and qualitative data.

A reflection journal is a type of collaborative assessment between teachers and lecturers. A reflection journal is a journal that includes elements from teaching and learning activities. The reflection process is used to examine all classroom teaching actions. Team members working as assessors or observers communicate the results of their observations. The results of observations from assessment team members or observers serve as material for reflecting on classroom teaching activities. According to Newcomer (2015), the objective of program assessment is to provide input for program planning, decision-making about program improvements, and information about program supporters and challenges.

A program evaluation is also a policy implementation evaluation. Policy review is required since every state policy (public policy) has a risk to fail. Wahab (2008, p. 40) explained that policy failure can be divided into two categories: 1) non-implementation or not being implemented according to plan; and 2) ineffective implementation. Failure to implement a policy indicates that the policy is not being carried out as anticipated. Meanwhile, failed implementation occurs when a policy is executed according to plan, but owing to unfavorable external conditions, the policy may fail to achieve the expected impact or final result.

The manifestation of the program evaluation results is a recommendation from the evaluator for decision makers. Reeping et al. (2019) identified various dimensions frequently intended to be studied and are defined in program assessment objectives, namely: 1) The program's impact/influence. In this dimension, the evaluator will evaluate how far the program that has been, is being, or will be implemented has impacted the target group in accordance with the program's objectives. 2) Program implementation. In this dimension, evaluators often perform studies to determine how far the program is being implemented in accordance with the program plan that has been prepared. 3) The context of the program. Evaluators can analyze the context conditions of programs that will be, are being, and have been implemented in this dimension, especially context support for program implementation. 4) Program needs. In this sense, evaluators may examine at the elements which will determine the efficiency of program implementation and its sustainability in the future.

Conclusion

Collaboration between lecturers and schools can directly improve the collaboration skills in implementing PDS and partner teachers to design responses based on perceived challenges in the classroom. Collaboration on basic competencies may begin with the process of creating or structuring lesson plans, identifying the subject to be studied, and then selecting the methods, tactics, and tactical strategies to be employed in the learning process. A reflection journal is a kind of collaborative assessment between teachers and lecturers. The reflection process is used to examine all classroom teaching actions. PDS activities provide numerous advantages to activity implementers. Collaboration exercises, among other things, can help teachers gain insight into the selection of learning media that is relevant to the topic and interesting, as well as provide knowledge about more complicated linguistic theories. This review is aimed to broaden lecturers' understanding of the school environment and provide a more in-depth understanding of student characteristics.

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