

2017 Use of Lesson Study During Microteaching Student Prospective Teachers: Effects on Planning and Teaching of Science

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Use of Lesson Study During Microteaching Student Prospective Teachers: Effects on Planning and Teaching of Science

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Abstract. This study, reveals the effects of using lesson study to improve the planning and implementation skills of teaching to students, as prospective teachers of science. Participants of the study are students who follow the microteaching course in Science Education Program at Lambung Mangkurat University in Banjarmasin. Student involvement in this lesson study program aims to create together the classroom atmosphere and situation, test the implementation of teaching, use feedback to revise lesson planning and re-teach from the revised Learning Plan. Students who become teacher candidates work through several cyclical processes in the classroom, then receive feedback from fellow students and instructors before re-teach. This research method, using a mixed method applied to investigate the ability of preservice teachers in planning and implementation of teaching. Data collection through surveys, video analysis, student reflections, and semi-structured interviews. The findings from this study indicate that lesson study is an effective way to improve the planning skills of the lessons plan and implementation of teaching.

Keywords: lesson study, preservice teacher, planning and implementing.

1. Introduction

Development of education is an important part and serious efforts to improve the dignity of the nation. Undang-Undang Republik Indonesia Nomor 20 Tahun 2003, about Sistem Pendidikan mandates "sistem pendidikan nasional harus mampu menjamin pemerataan kesempatan pendidikan, peningkatan mutu serta relevansi dan efisiensi manajemen pendidikan untuk menghadapi tantangan sesuai dengan tuntutan perubahan kehidupan lokal, nasional, dan global sehingga perlu dilakukan pembaharuan pendidikan secara terencana, terarah, dan berkesinambungan" [1], its mean the national education system must be able to ensure equal distribution of educational opportunities, quality improvement and relevance and efficiency of education management to face challenges in accordance with the changing demands of local, national, and global life so it is necessary renewal of education in a planned, directed, and sustainable.

To achieve the objectives of the legislation above, so need product or graduates of the Lembaga Pendidikan Tenaga Kependidikan (LPTK) quality regarding the competence of a teacher, as an educational component that will determine the implementation process of education is a teacher. According to [2], the teacher is the main factor that sustains the superior education program implementation, thus continuing the professional development of teachers is becoming a strategic step for educational institutions in providing a superior education for learners. Also, the role of teachers to develop the potential of learners so that they will know about knowledge and being able to do something.

Students who get into LPTK, especially science education courses, in particular, will be prepared to become a science teacher. Berdasarkan Undang-Undang Nomor 14 Tahun 2005 about Guru dan Dosen, teachers are required to have pedagogic competence, personal competence, social competence, and professional competence. In shaping the character of student teachers are highly competent, it is equipped with early-subject courses that are relevant, one Micro Teaching courses.

In microteaching, students are given theoretical and given the opportunity to practice and develop the skills that the result obtained by prospective teachers who are competent in the field of science. Science education students in FKIP Lambung Mangkurat University is a science teacher candidates that need to equip the students to be able to deliver the materials and science concepts well. These briefing inserted into one of the compulsory subjects they should take in semester sixth courses namely micro teaching science. Microteaching science is the initial briefing to the students to be able





to perform in front of the class should be a teacher. Also, preservice teachers are expected to dominate in the face of various obstacles in the field. Both constraints in making lesson plans, class domination, as well as difficulties in understanding the character of the students. By [3] which states that in its traditional form, microteaching is used to teach prospective teachers to master specific teaching skills. Nowadays in many teacher education programs, the use of microteaching has expanded from its original focus of helping preservice teachers to master discrete teaching skills, to giving them the complete teaching experience and orienting them to teach in the natural classroom during the field experience.

To enhance the quality of student mastery in competence development prospective teachers, particularly in the planning and implementation of the teaching of science, so in this study will be applied lesson study activities. Lesson study is a model of guidance to people who work as educators both teachers and lecturers through collaborative learning assessment and sustainable in building a learning community. [4] stated that lesson study is a complex process, supported by collaborative goal setting, careful data collection on student learning, and protocols that enable productive discussion of difficult issues. [5] found that Japanese lesson study provides opportunities for teacher candidates to build professional learning communities, to deepen understanding of curriculum and pedagogy, and to develop habits of critical observation, analysis, and reflection.

Implementation of lesson study in microteaching starting from planning lessons based objectives collaborative learning, observing lessons aim to collect data learning implementation, data resulting from observation to reflect the learning is broad and deep, based on the results of such reflections compile learning next to reteaching session.

2. Method

2.1 Types of Research

Mixed research methods are applied to investigate the ability of prospective teachers in the planning and successful implementation of teaching in the course of microteaching. Microteaching activities carried out by implementing Lesson Study (LS) in each of its activities. LS circuit is done there are three, namely plan, do (implementation), and see (reflection). The stages are carried out in this study as follows:

- Divide the large micro groups into two small groups
- Create a micro-schedule with a supervisor lecturer
- Direction of supervisors related to the process of micro activities to be implemented
- Before implementing micro, each small group must implement a learning plan that consists of preparing RPP, materials, and media to be used. Every time you execute do (implementation of learning) must go through a stage plan in advance
- After implementing the plan, students do. Students are carrying out teaching activities in class and observed using the observation sheet planning. Another student became students in participating in micro activities.
- After carrying out the activities of do, each small group performs a see (reflection) activity with the supervisor lecturer. See activity aimed to evaluate the advantages and disadvantages that occur during micro activities take place. Each observer put forward its observations regarding the condition that occurs during the process of micro-progress. Supervisor criticizes and suggest improvements to prospective teachers, to improve teaching skills in upcoming micro activities.

Measurement skills of prospective teachers are seen from the improvement or development of the ability of prospective teachers to create lesson plans is good and right, choose the model of learning, making learning media, and the ability to master classes. The data is derived from the observation sheet on the planning and implementation of teacher candidates who will then presented on any progress assessed.

2.2 Subject and Research Time

The subjects were students of Science Education FKIP ULM 2014 microteaching taking courses in the second semester of the academic year 2016/2017, amounting to 27 students.

2.3 Data Analysis

Collecting data in this study with a survey, video analysis, reflection students, and semi-structured interviews. Data were analyzed using quantitative descriptive analysis techniques. Data obtained in the





form of quantitative data from surveys, observation planning sheet made by prospective teachers and observation of the implementation of teaching prospective teachers that will be analyzed in percentage.

3. Discussion

In the first session (plan) of microteaching with lesson study approach in the planning stage showed that learning tools such as lesson plan, LKPD, teaching materials, and learning media made by students are still much to be improved. Based on the observation data obtained planning skills are shown in Table 1.

Table 1. Preservice Teachers Planning Skills

No	Sub Aspects	First session /plan (%)	Second session/ret each (%)
A.	Completing the lesson plan identity	90,40	95,45
B.	Mapping the basic competence and indicator	71,33	75,73
C.	Learning Materials		
	1. Organizing Materials	77,00	85,00
	2. Components of material feasibility	75,00	75,00
D.	Planning approach/strategy/metod/learning models	72,33	77,46
E.	Scenarios Learning		
	1. Preliminary activities	79,82	83,33
	2. Planning Kegiatan Inti	76,15	80,52
	3. Planning scientific scenarios	81,00	82,25
	4. Closing activities	69,55	76,12
F.	Organizing time allocation	80,20	85,00
G.	Organizing learning resources	76,75	85,00
H.	Organizing instructional Media	79,13	82,20
I.	Displaying lesson plan document	87,50	89,30
J.	LKPD document	71,00	79,55
K.	Materials document	73,34	76,12
L.	Assesment document	70,66	77,11
	Average	76,94	81,57

The average preservice teachers planning skills on stage plan is 76.94. Activities planned student teachers still do not show the activities of inquiry and encourage students to discover concepts through learning according to the subject matter. LKPD designed many students are still not by the learning model used and is not contextual.

Lesson plan, LKPD, teaching materials, and marking sheet approved by the supervisor can be used in further activities, namely teaching practices, at this stage in accordance with a plan designed student, are not student-centered, prospective teachers are still dominating the learning activities, most prospective teachers still explain the subject matter although some of the models used in the form of learning cycle, problem-based learning, and inquiry model. Prospective teachers are yet skillfully asking investigation to the students so that students can not find the concept itself. Based on the observation of teaching practices that the data obtained are shown in Table 2. The average value of the implementation of the teaching in this first session was 74.66.

Table 2. Teaching Practice of Preservice Teacher





No	Sub Aspects	Sesi Pertama/pl an (%)	Sesi Kedua/rete ach (%)
A.	Managing student for study	90,40	95,45
B.	Start learning activities	71,33	80,73
C.	Mastery of learning materials	74,92	78,81
D.	Approach/learning strategy	62,41	77,10
E.	Utilization of learning resources/learning media	79,92	82,85
F.	Learning triggering and maintaining student engagement	62,50	80,30
G.	Assessing the scientific learning	68,18	76,35
H.	Using of language	75,57	84,20
I.	Doing reflection	87,50	89,30
J.	Carry out follow-up by giving directions, or activities, or tasks as part of remedies/add-ons	73,88	75,25
	Average	74,66	82,03

After the implementation of the teaching of the first session, then the supervisor lecturer review the lesson plans used by the student and teaching practices in the first session. Supervisor lecturer delivers comments on the advantages and disadvantages, suggestions, and questions related to the implementation of learning and learning tools used. In this reflection, analysis and feedback from the lecturer in applied learning models, active students, as well as the media and LKPD used. There are still some preservice teachers who make LKPD which is not by the model used, the media used have not been up to the observation, during learning, the students still have not found the concept itself. Additionally, peers prospective teachers to give feedback, namely the concept found students.

At this stage of reteaching, lesson plans have been improved and revised used on reteaching. Results showed that student teachers planning skills increased to 81.57%, the students were able to adjust the RPP with a predetermined format. The result of reteaching observation also shows that teaching practice has increased to 82.03%. Preservice teacher is trained in the investigation of preservice teachers so that students can find their concept, also, learning steps are by the learning model designed, prospective teachers had not used the lecture method.

Based on the unstructured interviews of two prospective teachers who are representatives in each small group, that is, the prospective teacher can know the shortcomings during microteaching, know how to investigate the students so that students can find their concepts, and understand the learning steps according to the learning model designed. As stated by [6], lesson study has changed the way we talk about teaching and learning. We are in that place where we are comfortable enough to ask and explore the hard questions that come up in our lives as teachers. Lesson study has changed the way we think about, interact with, and teach our students and each other.

4. Conclusion

The use of lesson study on the teaching of student teachers science education program in FKIP Lambung Mangkurat University shows that this approach is an effective way to improve teaching planning skills and apply them in the implementation of the teaching. Micro teaching with lesson study approach needs to be applied maximally to produce prospective teachers who have good teaching skills, and the role of lecturers in this process needs more effective approach. This is in line with the statement [7] that by applying lesson study, school-based or teachers' union-based one, teachers and students can get the benefit from a Lesson Study for the betterment of a subject teaching and learning.





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