

# Implementation of Lesson Study to Improve Learning Activities in Biological Students

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**Keywords:** Basic Biology, Jumping task, Lesson study, Sharing task.

**Abstract:** Lesson Study is a collaborative teaching profession that has been known for a long time in developed countries initiated in Japan. The lesson study development for the teacher / instructor applies the principles of collaborative learning. In Japan, Lesson Study is known as part of a teaching culture system that implements how to share a "share" of professional culture in learning in order to develop learning, enrich classroom activities, and transform the school environment for the better. The main objective of the application of LS is to improve the lecture process by increasing learning activities and increasing collaboration among students. The research team is interested in applying learning through Lesson study with jumping tasks. The results showed that there were several forms of activities carried out by students, namely activities carried out in groups and activities carried out individually. Student activities that were seen were emotional activity (95%), psychomotor activity (81%), visual activity (68%), mental activity (59%), and oral activity (54%). All activities carried out by students are positive in order to increase their concentration in the learning process. This can be seen from the learning outcomes obtained. Of the 37 students who took the study skills test, as many as 95% who had achieved scores above the minimum criteria, and only 2 students who experienced remedial with a score of 65 (5%).

## 1 INTRODUCTION

Lesson Study (LS) is a form of collaborative teaching profession that has been known for a long time in developed countries initiated in Japan (Hollingsworth & Oliver, 2005). Lesson Study, in general, can be interpreted as fostering teachers / instructors by applying the principles of collaborative research. Lesson Study in Japan is known as part of a teaching culture system that implements ways to share "share" professional culture with learning in order to develop learning, enrich classroom activities, and transform the school environment for the better (Arani, Keisuke, & Lassegard, 2010).

The main purpose of implementing Lesson Study is to improve the lecture process by increasing learning activities and increasing collaboration between students. The research team was interested in applying basic biology learning to crossing material through lesson study by jumping task.

This form of assignment by jumping task is basically to provide assignments to solve problems with higher levels (Hobri and Susanto, 2016).

## 2 METHOD

This research is the result of the development of the application of Learn lessons that have been carried out by Suparman and Nurhasanah in the Biochemistry course at the Biology Faculty of Teacher Training and Education Sciences at Khairun University in the 2016-2017 academic year.

This research was also applied to other subjects, namely basic biology courses for second semester students T.A. 2017-2018.

In general, the implementation of lesson study implements 3 stages, namely the plan stage, the do class (open class) and see (reflection).

The implementation of Lesson Study at FKIP Khairun University has also been applied by Biology Education Study Program lecturers which

shows the observation that student activities in biochemical learning have increased in cognitive,

skill and attitude aspects (Suparman & Jusuf, 2017).

**Plan design:**  
 Together with colleagues determine goals and ways of learning together  
 Determining target students  
 Determine collaboration, task: task sharing and jumping task  
 Determine the improvement of



Figure 1.1: An example of a lesson design called future mapping.

**Do:**  
 Model teacher : - carry out in accordance with the joint design plan ; - become a learning facilitator  
 Observer actively observes and details, details, and specifics with recording devices, videos / camcorders. Trying the camera does not interfere with the learning process and does not interact with students



Figure 1.2: Example observer in LSLC. Active and specific. Observation photo of SDN 52 Ternate.

**See**  
 Analyze observations in small groups (4 people)  
 Analyzing student learning



Figure 1.3: Examples of detailed observer results that can be analyzed in reflection (right female students have friends who have not). Photos of observations from SDN 52.

## 2.1 Data Collection

Data to be taken and processed is collaboration data and student activities. This collaboration and activity observation uses video and photo recordings that start from the beginning of the lesson to completion by involving trained observers.

A trained Observer is an observer who can capture the unique activities of division that are thought to increase reducing and improving the learning process. The allegation is based on the results of the video and photo analysis that was confirmed by cognitive values and student version reflections on the learning.

## 2.2 Data Analysis

Analysis of the results of the research data was carried out by the observer together with the model lecturer by analyzing the learning videos and the results of the tests carried out by students with student reflection sheets. Cognitive data is taken from the gain of the pre-test and post-test while the student activity data is quantified from the collaboration observation sheet and student activities as follows:

$$P = f / n \times 100\%$$

Explanation:

P= percentage score of student activity

f= frequency of student activity

N= the maximum number of expected activities

### 3 RESULT AND DISCUSSION

The results showed that there were several unique activities of students during the learning process that were recorded and recorded.

Individual activities carried out by students are working on tasks / questions independently with enthusiasm. Group activities carried out by students are when there are students who do not understand the material or task instructions given by the lecturer, asking other students who understand better or ask the lecturer about things that have not been understood.

Student's unique activities observed individually, are one of the ways students try to concentrate when delivering material by lecturers (lecturers). This is positive if we know and how to respond well. In groups, student activities are observed in the form of their social activities when interacting with fellow participants. There are students who are able to do the assignments / questions willing to explain / guide other students if asked. In addition, students also look active and enthusiastic in doing tasks / questions both as questioners and answer explanations.

Activities in this group are active collaborations observed between fellow students, as well as between lecturers and students. Based on data obtained during the learning process, it is known that student activity in learning is as much as 95% for emotional activity. This activity is in the form of student enthusiasm for the material delivered by the lecturer and always helps friends in his group.

Activities with the next highest value are psychomotor activity (writing). This activity shows that students write more or record what is delivered by lecturers, with the number of students doing activities is 81%. The next activities that were observed were visual activity at 68%, mental activity (59%), and oral activity (54%).

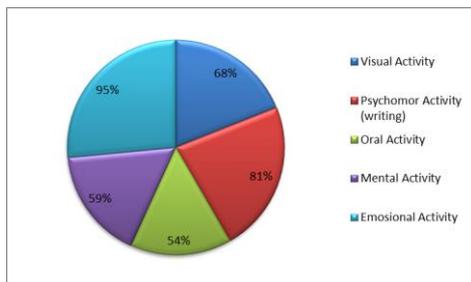


Figure 1: Student Learning Activity.

Based on the values of the protest and post-test that were tested on students, it was shown that the average student learning outcomes experienced an increase even though it was not yet categorized as

significant. With a standard criteria for graduation of 70, two people who have not obtained a minimum standard criteria for graduation criteria, with a value of 65. Of the 37 students who took the test of learning ability, as many as 95% had reached the minimum criteria, and only 2 students experiencing remedial with a value of 65 (5%).

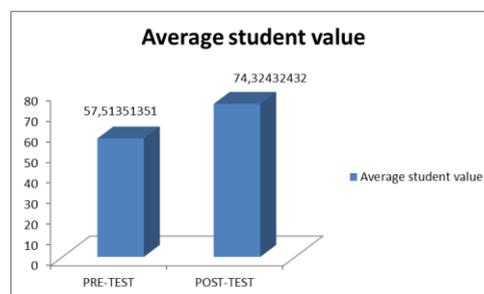


Figure 3. Average Student Value.

Study aimed at teachers / lecturers because it has provided benefits and opportunities for teachers / lecturers to be able to: (1) support for further goals, certain material that will be taught to students / students, (2) Learning for the benefit of future students / students, for example about the importance of learning, developing perspectives and ways of thinking students / students, as well as student / student love for science, (3) studying about the best things that can be used in learning through learning from other teachers / lecturers, (4) learning about learning activities material or lessons, (6) compiling collegial learning skills, in the sense that the teacher / lecturer can learn from each other about what is considered lacking, both about knowledge and skills in teaching students / students, and ( 7) developing "Eyes to See Students" (Kodomo Wo Miru Me), in the sense that the observers are present (observer), learning about student / student learning can be more detailed and clear

Based on real experience in the classroom, Lesson Study can be the foundation for the development of learning in the classroom. Teachers / lecturers can play a dual role, namely as a facilitator for students / researchers and researchers in learning. The existence of a learning community can also get to know Lesson Study activists from various backgrounds and varied disciplines. In addition, the existence of a learning community can also add insight and deepen our knowledge of Lesson Study. We can take part in open classes in schools or other educational institutions, so that our knowledge and experience will increase. Through Lesson Study, we can apply in the education environment (FKIP Khairun University) and can be used as an academic

culture in target schools or FKIP partners. The hope is through this Lesson Study culture that we can improve the quality of our learning.

## 4 CONCLUSIONS

By implementing Lesson study, we can conclude the following:

Lesson Study provides an understanding of various unique activities of students during the learning process. The teacher can know the timing of jumping task or when students' understanding begins to increase

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