



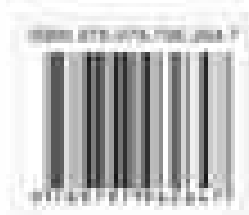
PROSIDING
INTERNATIONAL CONFERENCE ON LESSON STUDY
UNIVERSITY OF MUHAMMADIYAH MALANG



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UNIVERSITY OF MUHAMMADIYAH MALANG

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PROSIDING

*International Conference On Lesson Study
University of Muhammadiyah Malang*



Penerbit Universitas Muhammadiyah Malang

PROSIDING

International Conference on Lesson Study

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Penerbit Universitas Muhammadiyah Malang
Jl. Raya Tlogomas No. 246 Malang 65144
Telepon: 0877 0166 6388, (0341) 464318 Psw. 140
Fax. (0341) 460435
E-mail: ummpress@gmail.com
<http://ummpress.umm.ac.id>
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Prosiding ini memuat sebagian besar *full paper* peserta dan telah dipresentasikan pada ICLS di Universitas Muhammadiyah Malang. Ruang lingkup makalah yang terhimpun cukup luas, meliputi aspek kebijakan *Lesson Study*, praktek *Lesson Study*, evaluasi pelaksanaan *Lesson Study* hingga perkembangan implementasi *Lesson Study* di berbagai sekolah.

Perkembangan *Lesson Study* di berbagai Negara mengarah pada madzhab *Lesson Study for Learning Community*. Kehadiran prof. Manabu Sato, tokoh penting *Lesson Study for Learning Community* pada ICLS di UMM ini membawa angin segar untuk perkembangan *Lesson Study* ke depan khususnya bagi para pegiat *Lesson Study* di Indonesia.

Tiada gading yang tak retak, demikian kata pepatah. Oleh karenanya, setiap kekurangan yang terjadi dalam pelaksanaan ICLS dan perwujudan prosiding ini, kami mohon maaf yang setulusnya. Teriring harapan para kontribusi dan peserta ICLS ke 7 di Universitas Muhammadiyah Malang.

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Ketua Panitia
Nurwidodo

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Alhamdulillah Panitia ICLS ke 7 Universitas Muhammadiyah Malang telah berhasil menyelenggarakan agenda tahunan ASLI dan sekaligus seminar Internasional di FKIP UMM. ICLS ke 7 di UMM ini istimewa karena dilengkapi dengan Colloquium Pendidikan yang merupakan agenda "ngunduh karya ilmiah doctor baru" yang sudah menjadi tradisi di FKIP UMM.

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The Collaborative Learning Implementation in Learning-Forest Prototype through *Lesson Study* for Biology Education Students

Muhfahroyin

Biology Education Study Program of FKIP Muhammadiyah University of Metro

E-mail: muhfahroyin@yahoo.com

Abstract: the objective of this collaborative learning implementation was to facilitate students' learning activities and to build learning communities. Learning was conducted with collaboration in Plant Morphology subject. Learning was conducted in the forest-prototype learning with *Lesson Study*. Students learned about plant morphology structure. This collaborative learning implementation improved students' activities and built learning communities. The average grade of students' activities was 89.53 with very good category. Students learned collaboratively with contextual instrument. This collaborative learning could be done with a good planning, so that learning became open, democratic, and meaningful.

Keywords: collaborative learning, learning forest prototype, lesson study.

1. INTRODUCTION

Learning conducted by educators should emphasize meaning learning and contextual concepts. In learning, learners are empowered to be able to associate textual knowledge and contextual reality. In learning, lecturers as learning facilitators should be able to create a learning condition that is associated to the real world. Biology subject learning can be done with creation and innovation in an environmental-based-learning. The environment in a wide term is a meaningful learning source. The student understands that a living being interacts with other living beings, things in the environment, plants and animals, air, water, and land. Human being is one of members in living environment who has an important role in the relationship sustainability in that system (Utomo, 2011).

Environmental use is able to improve students' activities, develop students' curiosities, students' cooperation with groups of learning, ability of thinking critically, transfer multidisciplinary knowledge, collected information, to be analyze and synthesized from various sources and perspectives (Muhfahroyin, 2007). A contextual learning has seven main components; (1) constructivism, students are able to construct understanding along with learning experiences and give meaning through real experiences; (2) inquiry, students are able to discovers by themselves the concepts, facts, and principles in daily life; (3) questioning, students are able to ask questions to drive understanding to explore and to master; (4) learning community, students build learning communities to obtain perfect understanding to prevent misconception; (5) modeling, students construct a modeling that can be imitated and developed in learning to facilitate understanding assimilation; (6) reflection, students reflect what they have done to contemplate, to take meanings, and to use the meanings in constructing understanding in the future; (7) authentic assessment, the assessment of all learning processes have done, from the beginning to the end (Depdiknas, 2002).

Contextual learning means that students are able to process knowledge from main material meaningfully and learning is conducted with varying methods (Silberman, 2001). Information processing is conducted with students' thinking abilities (memory, experience, and action). Relationship patterns of classrooms with environment outside the classrooms are emphasized to synchronize knowledge have been built inside students through constructivism. Student's knowledge is reflected again for further development through collaborative learning, self-discovery, and mutual learning (Saito et.al, 2015).

After all learning sequences have been done, students conduct reflection on their understanding for the next learning activity by building further understanding (constructivism) to the main material concept (Depdiknas, 2012). According to social constructivism theory, during learning process students experience conceptual changes as result of social and academic interaction. These contextual changes are

enlightenments into their more complex understanding and improvements of critical thinking abilities (Depdiknas, 2002; Muhfaroyin, 2012).

Empowered learning sources for students to understand knowledge cognitively and in psychomotor have been widely developed, but real learning sources in nature (contextual) which are able supply students in cognitive, affective, and psychomotor domains which build environmentally concerned characters have been rarely developed. Through a fundamental research, a learning source with initiation of critical land based project, which previously did not have educative and economy values, was developed (Muhfaroyin, 2013). The land was empowered for learning into forest-prototype learning with educational benefits which were able to build environmentally care characters for students. The development of this forest-prototype learning supported environmental issues such as global warming, climate change, Let's Go Green program, One Man One Tree program, and Save Our Earth program. In the context of learning, this research is in synergy with philosophies of constructivism, character building, student-centered learning, cooperative learning, and contextual teaching and learning.

Through the learning-forest prototype, students are trained to think critically, cultivating environmentally care attitude, and skilful in representing cognitive, affective, and psychomotor domain (Muhfaroyin, 2015). Learning can also be conducted by implementing lesson study for learning community (LSLC). Depdiknas (2009) states that lesson study is an educator profession training model through examining learning collaboratively and continuously based on principles of collegiality and mutual assistance to build learning community. In this type of learning activity, collaboration occur between students; mutually learning, listening, and helping (Sato, Masaaki, 2012; Sato, Manabu, 2012).

Hendayana (2007) and Parmin (2007) explain that lesson study is an educational model for educator profession through studying learning collaboratively and continuously based on principles of collegiality and mutual assistance to build learning community. Lesson study applies varying learning methods and strategies based on situations, conditions, and problems faced by educators.

In the Lesson Study, teachers collaboratively 1) learn curriculum and formulate learning objectives and development objectives for their learners (developing life skill), 2) design learning to obtain objectives, 3) conduct and observe a research lesson, and 4) conduct reflection to discuss next learning (Lewis in Susilo et.al, 2009). A learning conducted in LSLC emphasizes on collaborative learning. Students learn in togetherness, by mutually assisting, listening ideas and opinions among learners in a collaborative group (Saito *et.al*, 2015).

2. METHOD

This collaborative learning was conducted in Plant Morphology subject for students of Biology education, in even semester of academic year 2014/2015. Learning was conducted by implementing *lesson study for learning community*. The activity was started with a *plan* with an objective to produce learning design.

The *plan* was conducted collaboratively by lecturers teaching the subject, other lecturers, and postgraduate students. This activity discussed the lesson plan. Student's activity sheet, field activity guidance, student's activity observation, and other learning equipment. The subsequent activity was learning implementation (*do*); the implementation of collaborative learning by students with forest-prototype learning. Model lecturers conducted Plant Morphology subject learning for undergraduate students, while other lecturers and postgraduate students were observing. The observations were focused to students' learning activities; observing, asking questions, answering, discussing observation result on collaboration of each student in the group.

The final step was reflection activity (*see*); where model lecturers delivered their observations and then followed by information found by other observers. The objective of this activity was to find out advantages and shortcomings of the learning conduct, especially discussing students' learning activities by using forest-prototype learning. The descriptive analysis from collaborative learning conduct would be used to describe students' learning activities.

3. Result and Discussion

The success of the integrated learning can be described from students' learning activities of observing, asking questions, answering, responding, and cooperating. The grades of students' learning activities in learning-forest prototype is visualized in Table 1.

Table 1. The average score of students' learning activities.

No.	Activity	Group									Average
		1	2	3	4	5	6	7	8	9	
1	Observing	92	93	94	92	91	93	97	96	93	93,44
2	Asking	89	90	92	87	89	91	94	96	97	91,67
3	Answering,	82	81	85	82	86	84	84	83	81	83,11
4	Responding	85	83	84	81	84	86	89	90	85	85,22
5	Cooperating	95	90	94	96	95	97	93	97	91	94,22
Average		88,60	87,40	89,80	87,60	89,00	90,20	91,40	92,40	89,40	89,53

Based on the Table 1, learning activities of 54 students which were grouped into nine groups showed that the average grade of learning activity was 89.53 (very good category). The highest and lowest grade averages were respectively cooperating activity (94.22) and answering activity (83.11). The grades of asking question and responding were 91.67 and 85.22 respectively. The grades of students' learning activities in forest-prototype learning is visualized in Figure 1.

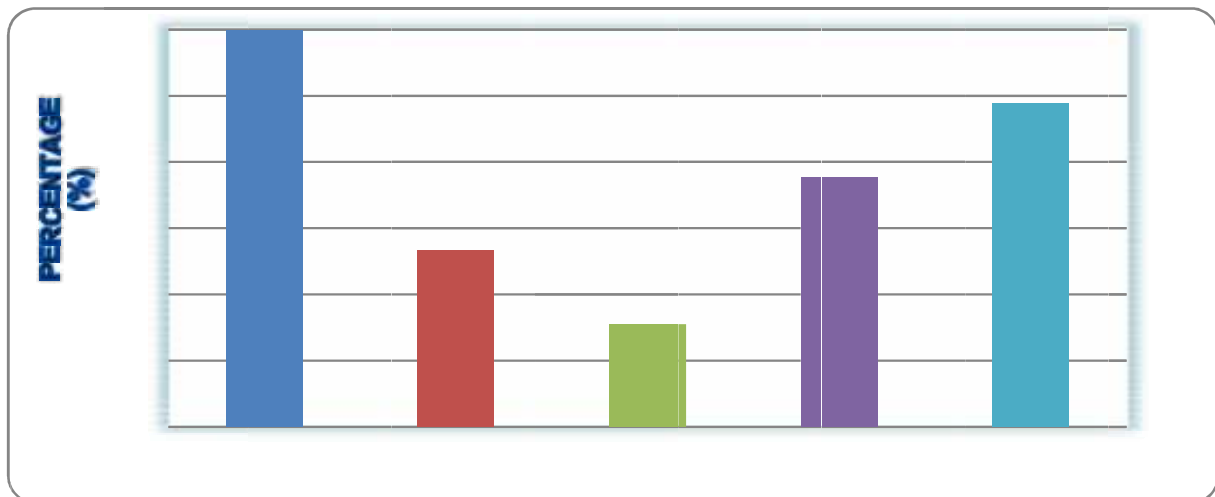


Figure 1. The average of students' learning activities in learning-forest prototype.

Based on the Figure 1 showed that students' learning activities in forest-prototype learning belong to very high category. This was because the learning was conducted in contextual environment, so that students were enthusiastic to find out many things related to lesson substances in the location of forest-prototype learning. This is in accordance to Muhfahroyin statements (2007, 2013). Cooperating activity has highest grade amongst other activities. This indicates that this learning facilitates collaboration where students are mutually learning and assisting, and there is no students is ignored in the learning (Sato, 2012; Saito *et al*, 2015)

By learning-forest prototype , students are trained to think critically, able to build environmentally care characters, and to work skilfully and these represent cognitive, affective, and psychomotor domains (Muhfaroyin, 2015). These students' learning activities are related to implementation of lesson study for learning community (LSLC) which is planned and observed during the learning processes. This is in accordance with Saito et.al (2015) that learning which is conducted in LSLC emphasizes on collaborative learning. Students learn in togetherness, mutually assisting and listening ideas and opinions amongst them in a collaborative group.

4. CONCLUSION

Collaborative learning in learning-forest prototype through lesson study is able to improve students' learning activities; observing, asking questions, responding, and cooperating. The average grade of activities in this learning is 89.53 (very good) and the highest grade is cooperating activity.

Recommendation

After implementing this collaborative learning, the researcher recommends that in activating students' activities, lecturers can conduct biology learning by using learning-forest prototype through lesson study. In the implementation of learning, proper Instrument and model based on the context of environment use as learning sources can be developed.

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