LESSON STUDY: A MODEL FOR IMPROVING INFORMATICS ENGINEERING STUDENTS' ACHIEVEMENT IN ENGLISH

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This research is done due to the result of the writer's previous research about "Learners' Attitude and Motivation in English", PDP 2013. At the research, it was found that students' attitude and motivation are positive toward English learning, but students' achievement was at poor category. It shows controversy. The writer assumed that the learning process was not maximal. For that reason, in this present research, the writer had done a research which aims at improving students' achievement in English. The model which is used is Lesson Study (LS), considering that FKIP Cokroaminoto Palopo University has gotten Hibah Lesson Study from Dikti, so the writer applied this model in another faculty, i.e. Faculty of Computer Technique at Informatics Engineering Study Program. The aim of the research is to find out the effectiveness of LS in improving students' achievement in English. The research applied a pre-experimental method with pretest-treatment-posttest design. The population is the second semester students of Informatics Engineering Study Program of Cokroaminoto Palopo University. The samples are 40 students from the total population of 388 students. The instrument of the research is general English test for pretest and posttest. For Lesson Study, the steps which were conducted are Plan, Do, and See. SPSS calculation and some of Gay's formula were used to analyze the data. Based on research result, it can be concluded that Lesson Study effectively improved Informatics Engineering students' achievement in English. It can be seen from the calculation of students' mean score. At pretest, students' mean score is 42.3 which is at poor category, while in posttest the students' mean score is 68.1 which is at fairly good category.

 Keywords:Lesson Study, Achievement, English Subject, Informatics Engineering students

A. Introduction

Language is very important for human life because it can be used to build communication or relation toward fellow member of society. Through communication, at also helps to gain information and knowledge. Then, English is one of the languages which play a very important role in the world as it functions as an international language. Nowadays, English is needed in all aspects of life. That is why, all majors in education need to put English as one of subject. One of study program in Cokroaminoto Palopo University, that is, Informatics Engineering Study Program also put English as one of Compulsory subject. Based on the writer's previous research which is entitled "Learners' Attitude and Motivation

in English, A First Step Research in the Implementation of English for Specific Purposes", it is found that the Informatics Engineering students showed positive attitude and motivation in learning English. It means that they like to learn English and want to master English. But, it is controversy to their achievement in English, where the result of the research showed that their achievement was at the poor category. The writer assumes that there is something which is not maximal in the learning process.

Based on the facts above, in this present research, the writer would like to improve students' achievement in English. In relation to the writer's assumption, that is about the learning process which is assumed did not maximal, the writer chooses one model to maximize the learning process in English classroom.

The learning model is called Lesson Study (LS). LS focuses on how to make the students learn in classroom. Lesson Study is a professional development process that Japanese teachers engage in to systematically examine their practice, with the goal of becoming more effective. This examination centers on teachers working collaboratively on a small number of "study lesson". Working on these study lessons involves planning, teaching, observing, and critiquing the lessons.

The research question of this research is formulated below:
"How is the effectiveness of Lesson Study in improving Informatics Engineering students' achievement in English?"

In relation to the research question, the objective of the research is to find out the effectiveness of Lesson Study in improving Informatics Engineering students' achievement in English.

The result of the research is used as a reference for other teachers/lecturers for improving students' achievement in English for non-English Department Students, and this research would be published in online scientific journal.

There are vary theories about the stages in LS, but in this research the writer chose the stages that is introduced in *Buku Panduan Penyusunan Proposal* Lesson Study, DIKTI 2010, which consists of three stages, they are Plan, Do, and See.

B. Review of Related Literature

1. Previous Studies

Several research studies have been carried out concerning Lesson Study (LS). Coe (2010) carried out a research about the process of lesson study as a strategy for the development of teaching in primary schools. She found that LS is beneficial to incorporate into continuing professional teacher development programs. Garfield (2003) in his research describes the use of Japanese Lesson Study as a method of helping teachers create research lessons designed to develop students' statistical thinking. While Rock and Wilson (2005) find out that the Lesson Study process has significant positive effects on increased teacher knowledge and skills and changes to instructional practice.

2. Lesson Study

Lesson Study is a model for classroom instruction that has been used in Japan for the past 50 years. It has been credited in Japan for much of the success in teaching mathematics and science (Lewis, Perry, & Hurd, 2004; Yoshida, 1999 in Coe, 2010:21). In http://www.devstu.org/lesson-study, it is mentioned that lesson study is a form of long-term professional development in which teams of teachers collaboratively plan, research, and study their lesson instruction as a way to determine how students learn best. It is a process that deepens the interaction of a school's professional learning community by developing the habits of self-reflection and critical thinking through very personal collaboration with their colleagues and structured observation of their students. Lesson study has the power to transform the life of a school. While Burney (2004:530) defines lesson study as a process by which practitioners engage as researchers and scholars in their own classrooms by developing and testing lessons and studying their impact on students. This practice provides a high-fidelity context in which teachers can build their content knowledge and pedagogical knowledge.

There are differing views about how many stages in lesson study. Stigler and Hiebert (1999) state that there are eight steps in lesson study include ranging from deciding what the learning goal should be to the dissemination of the results to an audience beyond the research team. Yoshida (1999) divides the process of lesson study into five steps beginning with the initial group meeting and ending with group reflection and the filling of the accumulated records. Lewis (2002) proposes a four-step process, beginning with the choosing of a goal and ending with the re-teaching of the research lesson. While, in the present research, the

writer uses the three steps of lesson study which is introduced in Buku *Panduan Penyusunan Proposal* Lesson Study, DIKTI 2013, which consists of three stages, they are Plan, Do, and See. The following are the description for every stage:

1. Plan. *Secara kolaboratif, dosen merencanakan pembelajaran yang berpusat pada mahasiswa berbasis permasalahan di kelas.*
2. Do. *Seorang dosen melaksanakan pembelajaran yang berpusat pada mahasiswa, sementara dosen lain mengobservasi aktivitas belajar mahasiswa.*
3. See. *Dengan prinsip kolegialitas, secara kolaboratif merefleksikan efektivitas pembelajaran dan saling belajar.*

3. Hypothesis

The hypothesis of this research can be formulated as follows:

1. Null Hypothesis (H0): There is no significant difference between the result of pretest and posttest after giving treatment. It means that lesson study is not effective in improving students' achievement in English.

2. Alternative Hypothesis (H1): There is significant difference between the result of pretest and posttest after giving treatment. It means that lesson study is effective in improving students' achievement in English.

Criteria of hypothesis acceptability:

H0 > H1 : reject null hypothesis

H0 < H1 : receive null hypothesis

C. Research Method

1. Research Design

This research applied a pre-experimental method. It consists of pre-test, treatment, and posttest. Pretest was held before treatment and posttest was held after treatment. The design of the research is as follows:

O1   x   O2

Where:

        O1 = Pretest

        X = Treatment

        O2 = Posttest

2. Time and Location

This research is conducted from March to July 2014 at Informatics Engineering Study Program, Faculty of Computer Technique, Cokroaminoto Palopo University.

3. Population and Sample

The population of the research is the Informatics Engineering students batch 2014. The total population is 350 students. In determining the sample, the writer applied random sampling technique. The total sample is 40 students.

4. Instrument of the Research

The instrument used in this research to collect data is general English test which is used in pretest and posttest. It aims at knowing the students' achievement in English. For Lesson Study model, the writer used video recording to record the steg of plan, do, and see.

5. Procedures of Collecting Data

In collecting the data, the writer followed the procedures below:

1. Giving pretest
2. Giving treatment

   The treatment is conducted in 16 meetings of lesson study which covers the stage of plan, do, and see.
3. Giving posttest.

6. Technique of Analyzing Data

The data of the research is analyzed by using Gay's formula including the scoring of students' answer, mean score, and classification.

D. Research Result

The result of research is shown as follows:

Table 1. The percentage of students' score in pretest

No.	Classification	Range	Pretest Frequency	Pretest Percentage
1	Excellent	96-100	0	0.0
2	Very Good	86-95	0	0.0
3	Good	76-85	0	0.0
4	Fairly Good	66-75	3	7.5
5	Fairly	56-65	2	5.0
6	Poor	36-55	24	60.0
7	Very Poor	0-35	11	27.5

Based on table 1, it can be concluded that before giving the treatment toward Lesson Study (LS) model, there were no students classified at excellent, very good, and good classification. There were 3 (7.5%) students out of 40 students who got fairly good, and only 2 (5.0%) students got fairly classification. Most of students was at poor (24 students or 60.0%) and very poor (11 students or 27.5%) classification.

Table 2. The percentage of students' score in posttest

No.	Classification	Range	Pretest Frequency	Pretest Percentage
1	Excellent	96-100	0	0.0
2	Very Good	86-95	0	0.0
3	Good	76-85	5	12.5
4	Fairly Good	66-75	18	45.0
5	Fairly	56-65	11	27.5
6	Poor	36-55	6	15.0
7	Very Poor	0-35	0	0.0

After having the treatment through the implementation of LS model, students' achievement shows improvement as we can see on table 2. Eventhough there were still no students achieved excellent and very good classification, but most of students were at good, fairly good and fairly classification. There were 6 (15.0%) students at poor category and there were no students at very poor category anymore.

By looking at the table 1 and table 2, we can see that LS model can improve the students' achievement in English. It is supported by the data taken from the calculation of students' mean score in pretest and posttest as presented below:

Table 3. Students' mean score

	Mean Score
Pretest	42.3
Posttest	68.1

At pretest, students' mean score is 42.3 while in posttest the students' mean score is 68.1. It means that LS model effectively improved Informatics Engineering students' achievement in English.

E. Conclusion and Suggestion

1. Conclusion

Based on research result, it can be concluded that Lesson Study effectively improved Informatics Engineering students' achievement in English. It can be seen from the calculation of students' mean score. At pretest, students' mean score is 42.3 which is at poor category, while in posttest the students' mean score is 68.1 which is at fairly good category.

2. Suggestion

By seeing the result of the research and the research conclusion, it is suggested to the teachers/lecturers to apply the Lesson Study in teaching-learning process in order to improve students' achievement and to achieve the goal of the lesson

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