Training of Trainers (ToT) Program in Team Teaching

Werry Febrianti¹*, Leo Hari Wiryanto²

¹Study Program of Mathematics, Sumatera Institute of Technology, Lampung Indonesia
²Faculty of Mathematics and Natural Sciences, Bandung Institute of Technology, Jalan Ganesha 10 Bandung Indonesia

*Email: werry.febrianti@itera.ac.id

Abstract. The first year students in Sumatera Institute of Technology (ITERA) follow the first year program (TPB). They will learn about mathematics, physics, chemistry, and all of the basic subjects that they need for learning in ITERA. They will study in the big classrooms with different background department of their friends. This situation makes the lectures become more challenging in teaching their lessons. Besides the classrooms, the experience of the lecturers is still need to be improved because the lecturers are young and less of experience in teaching so that they need guidance from their senior lecturer. Because of that situation, Training of Trainers (ToT) program in team teaching is one of the solution that can increase the young lecturers’s ability so that they can teach well in the massal conditions of the classrooms. ToT program in team teaching indicated the better result than regular teaching.

1. Introduction
Calculus I, in Sumatera Institute of Technology (ITERA), is called Elementary Mathematics I. Elementary Mathematics I in ITERA with larger students and because of lecturers who teach are still young and unexperience become a challenge in teaching and learning process in the first year program (TPB). Davis[1] said that team teaching most often refers to two or more faculty members who jointly produce a course. Easterby-Smith and Olve[2] said that team teaching involves two or more teachers collaborating over the design or implementation of the same course. Then, Hathcher & Hinton[3] said that in team teaching, instructor will held weekly meeting for course preparation. Hecht, Roberts, and Schoon[4] has reported about team teaching on the teachers increasing their motivation and improves teacher affect.

It caused an idea to held Training of Trainers (ToT) program in team teaching for the young lecturers so that they can be ready to teach in the classroom and become more confident. ToT program in team teaching is given by the senior lecturer to the unexperience young lecturers. ToT program in team teaching is a weekly program so that the senior lecturer will teach the young lecturers to teach the lesson that will be teach a week later. ToT program in team teaching could be conclude as a preparation program to make the young lecturers more ready to teach in the classroom.
2. Method’s Research
This research will compare the study result of Elementary Mathematics I in class D in odd semester 2015 with the study result of Elementary Mathematics I in class TPB 4 in odd semester 2016. There were some differentiation with the learning process in Elementary Mathematics I in class D in odd semester 2015 with the learning process in Elementary Mathematics I in class TPB 4 in odd semester 2016. Because of that differentiation, this research will look for the learning process that the lecturers did in Elementary Mathematics I in class D in odd semester 2015 with the learning process that the lecturers did in Elementary Mathematics I in class TPB 4 in odd semester 2016. Then, this research will see the tutorial process in Elementary Mathematics I in class D in odd semester 2015 with the tutorial process in Elementary Mathematics I in class TPB 4 in odd semester 2016. Furthermore, this research will also compare the study result of Elementary Mathematics I in class D in odd semester 2015 with the study result of Elementary Mathematics I in class TPB 4 in odd semester 2016.

3. The Result of the Research and Discussion
This research concerned about the learning process that lecturers’s did in Elementary Mathematics I in class D in odd semester 2015 with the learning process that lecturers’s did in the Elementary Mathematics I in class TPB 4 in odd semester 2016. Then, this research focused on the tutorial process in the Elementary Mathematics I in class D in odd semester 2015 and the tutorial process that lecturers’s did in Elementary Mathematics I in class TPB 4 in odd semester 2016. This research also focused on the study result in learning process with ToT program in team teaching that was implemented in learning process in Elementary Mathematics I in class TPB 4 in odd semester 2016. This study result would compared with the study result in Elementary Mathematics I in class D in odd semester 2015.

The learning process in Elementary Mathematics I in class D in odd semester 2015 didn’t implement the ToT program in team teaching. The learning process was given by the the young lecturers in ITERA without ToT program in team teaching from the senior lecturer. This research took the sample randomly so that the result point out the class D in odd semester 2015 as the sample class. Thus, the students in the class D in odd semester 2015 are 90 students. It means that the lesson is in the big classroom. Then, the tutorial process in class D in odd semester 2015 didn’t taught by their lecturer but from their seniors who had choosen from the academic to teach them. It was different from the tutorial process in class TPB 4 in odd semester 2016. Then, tutorial in the class D in odd semester 2015 didn’t divide into two small classroom so that it has made the tutorial become not effective and not efficient.

The learning process in Elementary Mathematics I in class TPB 4 in odd semester 2016 implement the ToT program in team teaching. Before teaching the lesson in the big classroom, the unexperience young lecturers has been taught by the senior lecturer. ToT program in team teaching increased the ability of the young lecturers in understanding the matter from the lesson that they will be teach so that this program maked them become more confident and ready to teach the lesson to their students. Furthermore, ToT program in team teaching also discuss about the problem that will be teach in tutorial class. The problems is given by the senior lecturer in the ToT program in team teaching so that it maked the uniform problem that was given to the students in TPB class in 2016. This research taked the sample randomly so that the result point out the class TPB 4 in odd semester 2016 as the sample class. Thus, the students in the class TPB 4 in odd semester 2016 are 87 students. It means that the lesson is in the big classroom. Then, the tutorial process in class TPB 4 in odd semester 2016 was taught by their own lecturers. Tutorial in the class TPB 4 in odd semester 2016 divided into two small classroom so that it has made the tutorial become more effective and more efficient. This tutorial usually discuss about the problem from the lesson that has been taught in the big classroom. The goal of this tutorial in discussing many problems to make the students more understanding about the lesson and also to make their motoric nerve become fully-flaged. The students also comfort with the system in tutorial in Elementary Mathematics I with their own lecturers because they don’t need adaptation so
that it makes the situation really conducive in learning process. This tutorial also effective in small classroom because the students more active and more pay attention with the lesson and the problems that they learn and solve so that it gives effect to the result of the learning process.

The result of the learning process in Elementary Mathematics I in class D in odd semester 2015 without ToT program in team teaching and the result of the learning process in Elementary Mathematics I in class TPB 4 in odd semester 2016 with ToT program has been shown in Table 1.

According to the result of the mark in Elementary Mathematics I can be seen that the result of the learning process in class TPB 4 with ToT program in team teaching to their lecturers has better mark than the result of the learning process in class D without training of the ToT program in team teaching. It has been influenced by the ToT program in team teaching to the unexperience young lecturers so that they become more ready to teach in the big classroom. Then, this result also influenced by the sum of the students that they teach in tutorial class. Because of the students in tutorial class is smaller than regular class so it has made the learning process in tutorial class more effective than regular class. It can be seen from the students who become more active in understanding the lessons that they learned.

4. Conclusion

Based on the research about training of trainers (ToT) program in team teaching, it can be conclude that the necessary to hold on workshop in learning process before teaching process followed by focus on the matter or the lessons that will be teach. This goal of this program to increase the ability of the young lecturers.

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