The Effectiveness of Microteaching With OMTA Model

P B Adnyana¹, D M Citrawathi¹

¹ Biology Education Study Program, Faculty of Mathematics and Natural Sciences, Universitas Pendidikan Ganesha – 81116

Abstract. The Microteaching course is a scaled down teaching subject that provides basic teaching skills and experience of teaching and learning student teacher. The general objective of the study was to determine the effectiveness of microteaching with the OMTA Model (Orientation, Modelling, Training, and Assessment) in the Biology Education of Universitas Pendidikan Ganesha. Specifically the research objectives were: 1) to find out and describe the learning outcomes of the Biology Education of Universitas Pendidikan Ganesha students who take Microteaching Classes with OMTA microteaching model, 2) to determine and effectively implement the OMTA microteaching model, 4) to determine student responses to Microteaching Classes using OMTA microteaching model. The research subjects were 18 Biology Education Department students who attended microteaching lectures in the sixth semester of academic year 2017/2018. The data were collected by observation, tests and questionnaires. They were analysed descriptively and statistically by one sample t-test. The results showed that the application of OMTA microteaching model was effectively used in microteaching lectures. In addition, the knowledge and teaching skills of students including categories are very good, the use of the OMTA microteaching model in lecture was very effective, and the students’ response was very positive.

1. Introduction

The Microteaching is the essential lecture by providing teaching skills to prepare teachers candidates for real practice at school. Teaching skills are one of the variables that influence teaching effectiveness. Through microteaching, students get teaching basic skills and small teaching experience. Thus, students are expected to have mental readiness and appearance in actual teaching practices at school. Kumar describes that "teaching is the art of facilitating learning" and according to Cooper, "teaching is an extremely complex dealing process with many teachers 'and pupils' personality characteristics, intelligence, motivation, teaching skills, etc. " [1,2]. Based on these definitions, teaching is an art to facilitate learning and is a very complex activity related to many variables sourced from teachers and students, such as personality characteristics, intelligence, motivation, teaching skills and others.

In the constructivists classroom, teaching in term of empowering students and allowing students to discover and reflect on reality experiences [3]. How to facilitate learning can have a major impact on creating successful learning outcomes for students. To facilitate and empower students to learn, teachers candidate must have teaching knowledge and have the ability to transfer their pedagogical skills into practice. Teaching skills related to all of teacher activities in the classroom and specific teacher assignments [4]. Research on teaching skills has been carried out, such as Allen and Ryan developing 14 teaching skills; Turney, 9 teaching skills; Passi, 13 teaching skills and; Rani (2011), 21 teaching skills [5,6]. The Development Team of institute of education and staff of education (LPTK), develops 8 basic teaching skills, namely: 1) questioning skills, 2) reinforcement skills, 3) stimulus variation skills, 4) explaining skills, 5) set induction and closure skills, 6) small groups discussion skill, 7) classroom management skills, and 8) skills of guidance small groups and individuals.
The results of the research reveals that: a) teaching skills are easier to train by simplifying complex teaching activities, b) microteaching is an effective and efficient technique for training specific teaching skills, and c) the results of the study also show that microteaching can reduce anxiety, increase self-confidence and enhance teacher efficacy [1,2,7,8,9].

The implementation of microteaching in the Biology Education of Universitas Pendidikan Ganesha need improvement to make it better. In the implementation of microteaching, students are given guided theory and practice teaching basic skills. The steps for implementing lectures for each trained skill are less structured systematically. Orientation activities for each type of learning and training skill have not been well implemented trough collaboratively. Orientation is important to provide an overview and the importance of the types of basic skills being trained. In addition, the modelling activities carried out so far only watching or observe videos that are not in accordance with the characteristics of the material and students who will be taught in the School. Therefore, to provide an example of how to implement each component of the basic skills to be trained, it is necessary to provide lecturers. Based on the weaknesses of microteaching that has been carried out in the Biology Education of Universitas Pendidikan Ganesha, it is necessary to improve by using an alternative model teaching, such as OMTA microteaching model. The OMTA microteaching model consists of 4 stages, namely: 1) Orientation, 2) Modelling, 3) Training, and 4) Assessment. This study aims to determine the effectiveness of the OMTA (Orientation, Modelling, Training, Assessment) microteaching model.

2. Method
2.1 Research Design
In The research design was experimental research with the One Shot Case Study research design. The research was conducted at the Biology Education of Universitas Pendidikan Ganesha. The research subjects were Biology education study program students who programmed the Microteaching course for the 2017/2018 school year. The number of research subjects was 18 students in 3 classes. This research was conducted with the OMTA microteaching model consisting of four stages as shown in Figure 1.

| Data                                      | Method        | Instruments                                      |
|-------------------------------------------|---------------|-------------------------------------------------|
| Teaching Basic Skills                     | Performance assessment | Performance list and Assessment rubric          |
| Integrated Teaching Skills                | Performance assessment | Performance list and Assessment rubric          |
| Knowledge of microteaching and teaching basic skills | Test          | Test                                            |
| Student responses to microteaching lectures| Questionnaire and Interview | Questionnaire and interview guideline          |
The microteaching lecture or learning phase consists of 4 phases or stages, namely the orientation, modelling, training, and assessment. Orientation is done to give direction and general description of the teaching skills that are trained. Modelling can be defined as a teaching strategy, where lecturers demonstrate teaching skills that are taught to students through observation. After participating in modelling activities, students are expected to be able to apply the basic skills learned. Callahan states that skills are best learned through experience [10]. For this reason, each student is given experience through training in teaching skills. Assessment is carried out at stages of orientation, modelling, and training. Data, methods, and instruments used in this research can be seen in Table 1.

2.1.1 Orientation
In the early stages of microteaching activities, orientation activities are carried out. Orientation is done to give direction and general description of the teaching skills that are trained. At this stage the activities are carried out as follows: (a) Explaining the importance of the skills taught to generate learning motivation, (b) Delivering the learning objectives in the form of specific descriptions to give the direction to be achieved, and (c) Delivering in general the ways to learn the teaching basic skills learned.

2.1.2 Modelling
Modelling can be done by using lecturers as models (direct models) or using video (indirect models). Using video as a model (video modelling) can help students learn teaching skills through presenting teaching skills using video. In the modelling phase there are 3 main activities carried out, namely: observation or watching videos, discussion, and making conclusions. Through modelling activities students are expected to get information about the understanding, goals, principles and components of the skills being taught, and how the components of the teaching basic skills are applied in the class. Activities carried out in the modelling phase are described in Table 2.

| Phase   | Activity                                                                 |
|---------|--------------------------------------------------------------------------|
| Observation | ▪ Watching and learn from videos in term of teaching basic skill               |
|          | ▪ Record information about definitions, principles, components of skills learned, how basic skills components are applied, and actions or important things that should not be done |
| Discussion | ▪ Discussions are conducted in small group                                 |
|          | ▪ The discussion begins with writing the points that will be discussed          |
|          | ▪ The focus of the discussion is on understanding, principles, skills components can be learned from videos, and important things that need to be considered in the practice |
|          | ▪ Make a summary of basic teaching skills to be learned                       |
| Conclusion | ▪ Write down the important points that are the focus of observation of videos and discussion |

2.1.3 Training (Practices)
After participating in modelling activities, students are expected to be able to apply the basic skills learned. Teaching skills are better understood to be learned through experience. For this reason, each student teacher is given experience through teaching training in a controlled situation. In training, students are given the opportunity to demonstrate the mastery of basic teaching skills. Activities at the practice stage include: 1) planning, 2) do (implementation), 3) observation and 4) reflection.

(a) Planning
In order for the practical activities of teaching skills to be carried out effectively, students need to micro lesson plan (MLP). The function of MLP is as a reference for students in carrying out practical activities in basic teaching skills. MLP components consist of: a) identity, b) practice objectives, c)
learning objectives, d) learning activities that contain a description of the stages in learning, learning activities, and components of teaching skills, and e) assessment.

(b) Implementation

Implementation is an activity to demonstrate the mastery of basic teaching skills in accordance with the MLP that has been made. Implementation is carried out in the microteaching laboratory practice room by using friends (participants) as students (peer-teaching) or can use 5-10 students (real-teaching). Teaching practice should be carried out in a microteaching laboratory in the practice room of teaching skills training. Teaching training activities can be recorded to facilitate the analysis of basic teaching skills that are trained.

(c) Observation

Observation of teaching skills training conducted by lecturers and students. The focus of the observation is directed at the following four questions. (1) Do all components of the teaching skills that are trained emerge or can be observed? (2) What are the interactions that occur in the classroom? (3) Are media used effectively? (4) Is the time used according to planning? Observation of students when teaching can be done through the observation room in the microteaching laboratory or through observing the results of video recordings when students practice teaching skills.

(d) Reflection

Reflection is an activity of discussion or study of the practice of demonstrating the basic skills of teaching that have been done. Reflection begins with asking for comments to students who have been trained (self reflection) to continue giving feedback or review and improvement solutions from other participants. Last is the submission of comments from the Supervisor. All comments (feedback) are delivered based on the facts of learning that are focused on the basic skills of teaching being trained. Reflection is an important process for teachers’ learning in and management of the demands of practice [11]. The results of reflection are used as material to improve the practical activities of the next teaching basic skills.

2.1.4 Assessment

Assessment is carried out at the stages of orientation, modeling, and practice. The aspects assessed in each stage are summarized briefly in Table 3.

Table 3. Aspects and Instruments

| Phase      | Aspects assessed                                                                 | Instruments                        |
|------------|----------------------------------------------------------------------------------|-----------------------------------|
| Orientation| Enthusiasm and participation                                                      | Daily Logbook                     |
| Modelling  | Enthusiasm, participation, and ability to obtain information about the understanding, principles, and components of basic teaching skills from video | Daily notes from Journal of video observation |
| Training   | Components of emerging skills, use of time, effectiveness of media use, interaction, material mastery, and appearance | Observation Sheet, Assessment rubric |

2.2 Data Analysis

2.2.1 Descriptive Data Analysis

Data on the knowledge, skills, and final score of microteaching and student responses to micro teaching using the OMTA microteaching model are collected and described in the form of tables and narratives. The final score obtained can be categorized according to Table 4.

Table 4. Microteaching Score Conversion

| Interval Score | Category      |
|----------------|---------------|
| 85 ≤ X < 100   | Very Good     |
| 70 ≤ X < 85    | Good          |
| 55 ≤ X < 70    | Enough        |
| 40 ≤ X < 55    | Less          |
| 0 ≤ X < 40     | Very Less     |
2.2.2 Micro Teaching Effectiveness Analysis
To find out the effectiveness can be seen from the effectiveness index (EI) of the lecture process. Lectures are said to be effective if lectures have an 80% EI. To test whether the class has an 80% EI, the one sample t-test was conducted.

2.2.3 Student’s Responses Analysis
Student responses to Microteaching Lectures using the OMTA microteaching model were analysed descriptively. Each student's response (response) to the question on the questionnaire is calculated. The percentage of each response is determined based on the number of student responses in each aspect divided by the number of students multiplied by 100%.

3. Results and Discussion
3.1 Research Results
3.1.1 Profile of Microteaching Learning Results
Student microteaching learning outcomes include: 1) basic teaching skills, 2) integrated teaching skills, and 3) knowledge about microteaching and basic teaching skills. The results of data collection and data analysis on student microteaching learning outcomes obtained data such as Table 5. Based on the data in Table 3, it can be seen that the average student learning outcomes are classified as very good (all of them are above 85). The highest score is on knowledge about basic teaching skills (\(\bar{x} = 87.44\)).

| Learning outcomes                                      | Mean | Standard Deviation |
|--------------------------------------------------------|------|--------------------|
| Basic Teaching Skills                                  | 86.94| 1.626              |
| Integrated Teaching Skills                             | 86.94| 1.514              |
| Knowledge of Microteaching and Basic Teaching Skills   | 87.44| 1.580              |
| Final score                                            | 87.04| 1.480              |

3.1.2 Effectiveness Test of the OMTA Microteaching Model
Effectiveness test results using the t-test one sample with SPSS program, and the results of the analysis obtained \(t = 20.192\) with significance \(p = 0.0001\) (\(p <0.05\)). This means that the OMTA microteaching model is effective for microteaching, by having EI of more than 80 percent.

3.13 Student Response to the OMTA Microteaching Model
Student responses to the OMTA microteaching model are very positive, because more than 85 percent of students respond positively to the aspects assessed. Student responses to lectures with OMTA microteaching models as in Table 6.

| Aspects that are responded to                           | Student Response Category |
|--------------------------------------------------------|---------------------------|
|                                                        | Positive | Negative |
|                                                        | f  | %    | f  | %    |
| learning process                                       | 17 | 94.44| 1  | 5.56 |
| OMTA microteaching model                               | 17 | 94.44| 1  | 5.56 |
| worksheets and teaching materials                      | 16 | 88.89| 2  | 11.11|

3.2 Discussion
The OMTA microteaching models focus on the ability of knowledge and teaching skills as well as student behaviour (Table 01 and Table 05). This is in accordance with one of the outcome based education (OBE) principles associated with what the student should be able to do at the end of a learning. Based on the profile data of student microteaching learning outcomes (Table 05) and the effectiveness of the test results, the learning outcomes of microteaching are very good and effective. This is due to use OMTA Microteaching Model. The OMTA microteaching model consist of 4 main
activities: 1) orientation, 2) modelling, 3) training, and 4) assessment. In orientation, the learning objectives are conveyed to give direction and provide an overview of the importance of teaching skills. The general purpose of orientation are to explain what students will be able to do and pedagogical knowledge and skills that must be mastered. Thus, through orientation activities, students can find out about teaching knowledge and skills that must be owned and mastered. Besides giving orientation on the importance of microteaching and mastering teaching skills can increase learning motivation.

Modelling carried out in microteaching can help students learn teaching skills through presenting teaching skills using video. Looking at the explanations and examples of application through video makes it easier for students to understand and have a longer retention power. This is because the brain essentially stores information in the form of an image. The research showed that the use of video can improve learning outcomes [12].

Training can be remove the trainee nervousness and fear. The student teachers indicated that they were able to stand in front of the class without fear [13]. Skills can be learned through training in teaching skills. Skills that embedded in natural spatial memory are easier to understand and remember [14]. Exercises and practices carried out can improve teaching skills [15]. Student teacher engages in cooperative learning to develop their understanding and ability to plan, implement, and reflect on training phase. This was also applied by Fernandez in Microteaching Lesson Study (MLS) [16].

Assessments carried out at the orientation, modelling, and practice stages have functions: 1) as a formative assessment used to monitor learning progress during learning. In formative assessment, students are given feedback to improve teaching skills and 2) as summative assessments to assess the best performance of students. In addition, students carried out peer and self-assessment in after practice in training phase. The results of study have indicated that peer and self-assessment are viewed positively across subject areas.

4. Conclusion
Based on the results of research and data analysis, it can be concluded: 1) Student learning outcomes in lectures on the OMTA microteaching model are very good, with a mean value of 87.04; 2) The use of the OMTA microteaching model in microteaching lectures is very effective (p <0.05), and 3) Student responses to microteaching lectures with the OMTA Model are very positive.

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