The Ability of students in Biology Education Program, Universitas PGRI Ronggolawe in Implementing the Teaching Practice

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Abstract

The teaching practice is a major course that must be taken by all students in the Biology Education Program. This study aim to determine the ability of students of the Biology Education Program at the Universitas PGRI Ronggolawe in carrying out the teaching practice. The research subjects were all students who took teaching practice course in 2016 as many as 38 students. All students are distributed in three partner schools (SMPN 4, SMPN 5, and SMPN 7). The ability of students in carrying out this teaching practice namely in the aspects of the ability to make learning designs and the ability to carry out the teaching and learning process. Data collection techniques are carried out by analyzing documents in the form of student scores in teaching practice course. The scores is given by the supervisor and teacher mentor. The data was the average score obtained by students in the aspect of the ability to make learning designs and the ability to carry out the teaching and learning process. The data were then analyzed using quantitative descriptive techniques, by calculating the average scores for each aspects. The results of data analysis show that the average score of students in the aspect of the ability to make learning designs at SMPN 4, SMPN 5, and SMPN 7 are all in category A (very good) with their respective scores of 81,17; 80,14; and 80,07. While the ability, to carry out the teaching and learning process, all are in criterion A (very good), with the scocres in each of the schools SMPN 4, SMPN 5, and SMPN 7 respectively 80,79; 80,08; 80,28.

Keywords: Teaching practice; partner school; learning design; teaching and learning process; tutor teacher; supervisor

1. Introduction

The practice of teaching is a compulsory courses, which all students in the faculty of teaching and education are required to take this courses. Unlike other courses whose learning process carried out on campus, this teaching practice course is carried out in partner schools (SMP or SMA), which have been determined by the University. In this course, students carry out teaching practice in the classroom like a teacher. Like a teacher, before carrying out the teaching and learning process in the classroom, students who carry out teaching practice must make learning design that will be used as guidelines by them when carrying out the teaching and learning process in the classroom.

The teaching practice is very important for prospective teachers because this will provide them with experience in carrying out the real teaching and learning process in

the classroom with all its dynamics. Kiggundu & Nayimuli (2009) report that students who carry out teaching practice view that the teaching practice is an important component, because it will provide them with a real teaching and learning environment. This is in line with Nuraida (2018), wich state that students who carry out the teaching practice 98.70% state that teaching practice carried out in partner schools are very important to provide real experience for them.

Although students have been trained to carry out teaching practice in the peer teaching model in several courses, the conditions at the time of peer teaching are certainly different from the actual teaching conditions. In peer teaching, classmates are turned into students, while in teaching practice students are actually students from the partner schools. This will provide different situations and conditions, where is the difference in this situations and conditions can affect performance in carrying out teaching activities. Sudarisman (2012) states that the teaching situation greatly affects the performance of student teacher candidates in carrying out teaching practices in the classroom.

In addition to providing experience for students to face the real environment and classroom situations, the teaching practice is also important to introduce student teacher candidates to matters relating to the duties of the teaching profession which will later became their profession. By knowing the tasks related teaching profession, they have a solid choice to choose the profession or not. Kiggundu & Nayimuli (2009) said that teaching practice provide an opportunity for student teacher candidates to provide the right career choice, whether a career as a teacher is chosen or not. Like Kiggundu & Nayimuli (2009), Aglazor (2017) states that teaching practice is an opportunity for prospective teachers to understand the role and operation of experiences that provide challenging but rewarding experiences in working with students in actual classroom and gaining professional competence. It is believed that this experience has the potential to increase the acquisition of teacher professional competence. Thus it can be concluded that teaching practice at schools is very important to provide experience in implementing and solving problems in the classroom.

Pedagogic competence is one of the competencies that a teacher must have. This competency includes, the ability to make learning design and implement this design in the teaching and learning process in the classroom (Hakim, 2015). Koehler & Mishra (2009) state, that there are 3 main components of teacher knowledge, those are content, pedagogy, and technology. Retnawati, et al, (2018) said that pedagogic competence is an ability that teachers must have in managing the teaching and learning process, such as designing and implementing learning and more importantly their understanding of students so that they can become good facilitators in developing student potential. Making the learning design is an ability that must be possessed by prospective teachers, according to Ahmadi (2012), improving the quality of learning must be preceded by improvements in learning design. The learning design can be used as a starting point in improving the quality of learning. Like Ahmadi (2012), Rahman (2014) also said that to improve teacher performance it is necessary to increase teacher pedagogic competence and motivation. In the learning design there are at least 5 elements, those are 1) learning objectives, 2) learning strategies/method, 3) learning materials, 4) learning resources, and 5) learning outcomes assessment (Sanjaya, 2008).

The teaching practice is carried out under the guidance of a supervisor lecturers from University and a mentor teachers from the partner schools. The role of the supervisor

lecturer is to consult students if they encounter problems or difficulties when they carry out teaching practices at schools, while the mentor teacher from school play role in guiding students regarding the technical implementation of teaching and learning in the classroom, such as determining teaching materials, teaching schedules, guiding in making learning design in accordance with the learning plan model set by the school, providing input on the shortcomings of students while carrying out teaching practices in class and others.

Every students can take teaching practice course if they have passed the perequisite courses, those are the Development of the Biology Teaching Program (PPPB), Teaching and Learning Strategies (SBM), and Microteaching. These three subjects are courses that provide provisions for students in making learning design, selecting teaching methods and strategies, and providing basic teaching skills. By mastering these subjects, the students are expected to have sufficient provisions in teaching practice at partner schools.

The purpose of this research is to describe the ability of Biology Education Department students in carrying out teaching practice in schools. The ability referred to here is in terms of the ability to make learning design, and the implementation of the teaching and learning process in the classroom.

2. Research Method

This research is a case study conducted at the Biology Education Program of the PGRI Ronggolawe University in Tuban, Indonesia. The research object of all students of the Biology Education Program who took the teaching practice course (PPL) in 2016 was 38 people. All students participating in the teaching practice are distributed in 3 partner schools, namely SMP 4, SMP 5, and SMP 7. Each student is mentored by a supervisor from the university and a teacher tutor from partner school. The data in this study are secondary data obtained through documentation techniques, this is by analyzing documents in the form of student score in the teaching practice course. The document is stored in the Biology Education Program. During the teaching practice, each student performs 3 exercises and 1 exam. When doing the exercises, students are assessed by a tutor teacher (teachers from partner schools), while at the time of the exam they are assessed by a tutor teacher and a supervisor from the university. The aspects that are assessed in the teaching practice are designed by the University, including the ability to make learning designs consisting of 8 indicators, and the ability to implement the teaching process in the classroom, consisting of 9 indicators. The final score obtained by students in each aspect of this teaching practice is the average score given by the tutor teacher and the supervisor. The data analysis using quantitative descriptive method, by calculating the average score of each aspect and also the average score of each indicator from each aspect.

3. Result and Discussion

In this study the data is the scores obtained by students in the teaching practice course, which consists of the aspects of the ability to make learning designs and the ability to carry out the teaching and learning process in the classroom. This data can be seen in Fig 1.

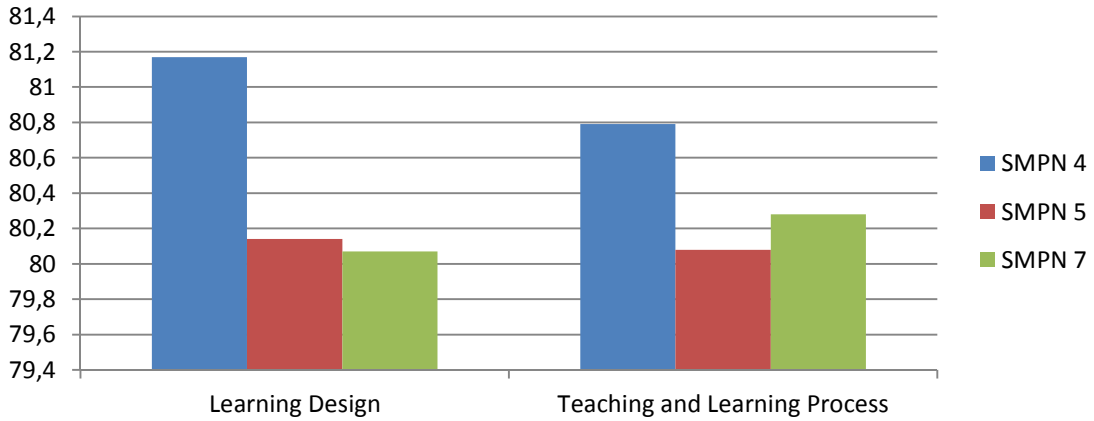

Figure 1. The average score of students' abilities in the aspects of making learning design and the Teaching and learning process in 3 partner schools

From this figure, it can be seen that the average score of students who carry out teaching practice at SMPN 4, SMPN 5, and SMPN 7, in the aspect of the ability to make learning design, is above 80. This means that students have good abilities in making learning design.

The ability to make learning design is a part of the pedagogic competencies that a teacher or prospective teacher must have. Competency is the ability to perform task in a specific situation in a flexible and adaptive fashion (Kaendler et al., 2015). According to the national Education Standards Agency (BSNP) in (Pahrudin et al., 2015) is a pedagogical competencies are: The ability in the management of learners that includes: understanding of insight or educational foundation, an understanding of learners, the development curriculum / syllabus, the design instructional, the implementation of learnings that educates and dialogue, evaluation of learning outcomes, and the development of learners to apply various potentials. Meanwhile, Apelgren & Giertz (2010) said that pedagogical competence is the ability to apply attitude, knowledge, and skill in the best way regularly. According to Syahrial et al. (2019), teachers who have good competence will produce students who are successful in learning.

According to Ahmadi (2012) that improving the quality of learning must be preceded by improvements in the learning design. The learning design can be used as a starting point in improving the quality of learning. Koehler & Mishra (2009) explained that there are three main components of teacher knowledge, namely content, pedagogy, and technology. Pedagogical knowledge (PK) is the teacher's in-depth knowledge of teaching and learning processes and practices or methods. It includes, among other things, the aims, values and goals of education as a whole. This form of general knowledge applies to understanding how students learn, general classroom management skills, learning design, and student assessment. Therefore, the ability of students to make learning design and implement them in the teaching and learning process in the classroom is the initial provision that students must have to become professional teachers.

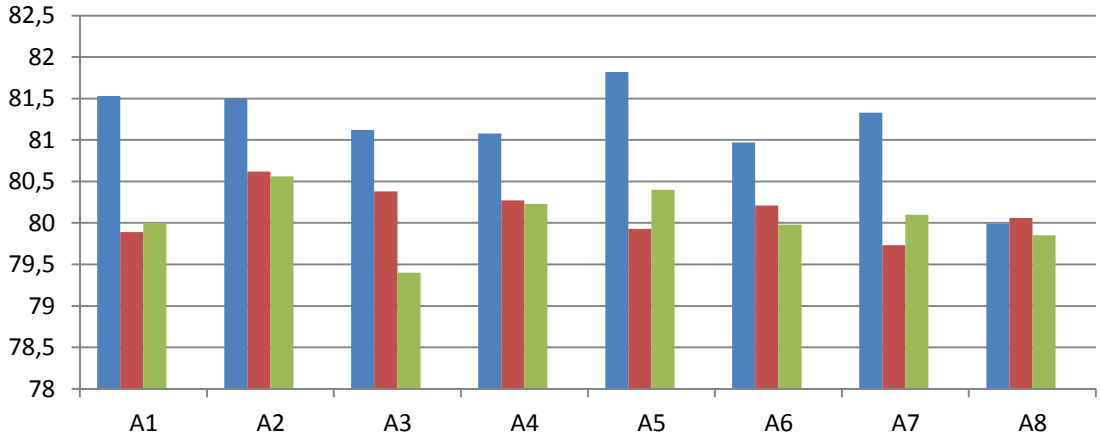

Figure 2. Average score of students' ability on each indicator from the aspect of making learning design at SMPN 4, SMPN 5, and SMPN 7. (A1: Clarity of learning objectives; A2: Relevance of material with the competencies and learning objectives; A3: Organizing learning materials; A4: Approaches, strategies and models of learning; A5: The relevance of the learning steps to the learning model; A6: The relevance of learning resources and media with competencies and objectives; A7: The relevance of the assessment tool to indicators and learning objectives; A8: Allocation of time for each step of learning).

In general, students who carry out teaching practices have a fairly good ability in making learning design. The mean score of students on all indicators (A1-A8) of the 3 partner schools ranged from 79.80 to 81.80 (Figure 2). For a novice teacher / prospective teacher the score is quite high. The score range is not far away, this means that students have good abilities in all indicators of the aspects of making learning designs. As a prospective teacher students are required to have the ability to make learning designs, because this learning design will act as a direction and guidance for teachers in carrying out the teaching and learning process in the classroom. According to Koehler & Mishra (2009) in a learning design, teachers need to plan what students should do so that learning objectives can be achieved optimally, besides that the teacher also has to plan what should be played by himself as a learning manager. In addition, Apelgren & Giertz (2010) stated that teachers who have pedagogical competence will have the ability to plan, organize the learning process, compile materials properly and adapt teaching methods to specific situations and groups of students. They have the ability to recognize student learning styles and can cover them in the teaching and learning process, they are also ready to teach. According to Hakim (2015), the quality of teaching competencies plays an important role in creating the quality of the student learning process, and also shows their level of professionalism, and can support in improving learning performance.

The ability of students in making learning design cannot be separated from the role of supporting course, in this case the Biology Teaching Program Development course. This course is designed to provide provisions for students in making learning designs. In this course, the students are trained to formulate good learning objectives, organize learning materials, choose methods, strategies and learning media, formulate

evaluations, and plan time for each learning step. Every student can take the teaching practice course if they have passed this course. Nuraida (2018) reported that the support from this course for the implementation of teaching practice was 84.42%. This high support is evidenced by the ability of students to make learning designs when carrying out teaching practices with a high enough score.

The average student's ability in implement the teaching process, from 3 partner schools is above 80 (Figure 1), while the scores for each of these indicators can be seen in Figure 3. The average score for all indicators on this aspect of the 3 partner schools was between 78.8-81.8. The lowest score is 78.8, which is the indicator of providing feedback to students during the implementation of the teaching and learning process. The lowest score is the average score of students who carry out teaching practices at SMPN 5.

The subject that supports the aspects of implementing the teaching and learning process in the classroom in this teaching practice is microteaching. Microteaching is an approach or method for training teaching performance that is carried out in the micro scope (Susantini et al. (2014). Nuraida (2018) reports that the support of this course for the implementation of teaching practice is 84.41%. Microteaching is a course given to students to practice basic teaching skills, namely opening and closing learning skills, explaining skills, questioning skills, strengthening skills for students, class management skills. These skills are skills that must be possessed by prospective teacher so that later they can become a professional teacher.

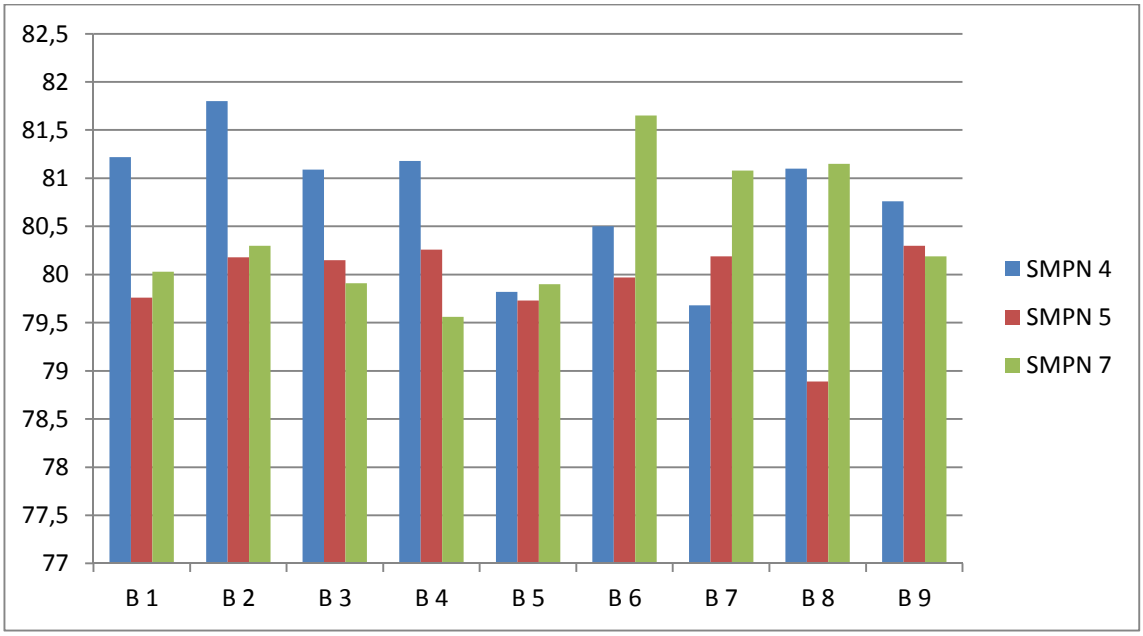

Fig 3. The average score of each indicator for aspects of the teaching process in the classroom (B1: Open the learning; B2: Mastery of learning materials; B3: The Accuracy of media and learning resources; B4: The accuracy of the learning model; B5: Time management; B6: Time management; B7: The relevance of evaluation to learning objectives; B8: Provide feedback during learning; B9: Closing the learning (making conclusions and providing follow-up).

In Fig 3, it can be seen that for the skills to open and close learning (B1 and B9), the average score obtained by students in all schools is above 80, except in SMP 5 with a score of 79.8. The skill of opening and closing learning is a skill that must be practiced by students in microteaching courses. In this course, students carry out teaching exercises in a micro scope for all teaching and learning components. For example, in real teaching in the classroom it takes at least 40 minutes while in microteaching it only takes 10-15 minutes. In actual teaching, a teacher naturally involves all the basic teaching skills, whereas in microteaching a student is trained to practice only one skill for each exercise. In microteaching learning, after students practice one basic teaching skill, they will be evaluated and given input by the lecturer and classmates. During the microteaching course, each student practices at least 4 basic skills. The basic teaching skills that have been mastered by students can become provisions for carrying out the teaching and learning process in the classroom. (Susantini et al., 2014), explains that micro learning (micro teaching) can function as a vehicle for teaching basic skills, before teaching in actual classes.

Other courses that also support students' abilities in implementing teaching practice are the Teaching and Learning Strategy (SBM). In this course, students are introduced to several kinds of methods, models, teaching and learning strategies, and learning media, as well as what factors should be considered in choosing the right strategies and methods. From Figure 3 it can be seen that students have good abilities in choosing the right learning method, this is evidenced by the scores they obtained on indicators B3 and B4, each score ranging from 79.5 - 81. In addition, in this course, they are also trained to practice an innovative teaching method in the form of peer teaching. Therefore, when they carry out their teaching practice, they do not experience difficulties in choosing the right learning method. Nuraida (2018), reports that the Teaching and Learning Strategies course support for teaching practice is 98.71%. This great support is certainly very helpful for students in carrying out teaching practice, especially in terms of choosing teaching methods and strategies. In the teaching and learning process the selection of appropriate teaching strategies will affect student learning outcomes. Raba (2017), reports the results of his research that there is a positive impact of effective learning strategies in producing fast and good learning outcomes.

All partner schools give a score above 80 on the B2 indicator (mastery of learning material). This is different from other indicators where there are still scores below 80.This means that students have good mastery of learning material, which can be used as provisions for them to become a teacher. To provide students with the mastery of learning materials, the Department of Biology has provided curriculum with courses in accordance with the field of Biology, both compulsory and elective courses. Nuraida (2018) reported that 89.61% of students stated that the breadth and depth of the material given in lectures was sufficient to support them in implementing the teaching practice. This good mastery is enough to become a provision for them to become a professional teacher. A teacher must master the learning material that he or she will teach in the classroom, this is a professional competence for a teacher. Akhyak et.al., (2013) said, that professional competence is teacher's knowledge of the subject matter. Professional competence is the ability to comprehend the content of learning materials in depth. Professional competence is the ability to master the subject matter broadly and deeply. Furthermore, [5] explained that Professional competence include expertise in their field

or expertise or mastery of the materials to be taught along with the method, a sense of responsibility and sense of duty to the other teacher colleagues. Besides Akhyak et al., (2013), Farlina et al., (2017) said professional competence includes: a) mastering learning materials and scientific methodology; b) mastering the structure and curriculum of learning materials; c) mastering and utilizing information technology to improve the quality of learning.

Besides mastery of the material, another indicator that also scores above 80 for all schools is an indicator of closing learning (indicator B9). This indicator includes making conclusions, making an outline of the material that has been taught, and providing follow-up. The ability to close learning is a teaching skill that students must practice when they take microteaching course. Thus, when carrying out their teaching practice, they already have experience in closing learning. This is evidenced by the scores obtained by students from all partner schools above 80.

The average score obtained by prospective students teacher from all partner schools (SMPN 4, SMPN 5, SMPN 7), for the indicator of learning time management is below 80. These results indicate that they experience difficulties in managing their learning time when doing teaching practice. Their difficulty in managing the learning time may be related to the teaching methods they use. All teaching methods applied by them when carrying out teaching practice are innovative learning methods, which invite students to be active during learning, the teaching methods they use involve group discussions and class discussions. Discussion method is an active learning in which learners solve problem, answer question, formulate question of their own discuss, explain, debate or brainstorm during class (Sanda & Mazila, 2017). In such discussions, the time needed is usually more and it is difficult to control. As stated by Thotakura & Anuradha (2018), the group discussion method requires a lot of time. Like Thotakura & Anuradha (2018), Craven & Hogan (Abdulbaki et al., 2018), stated that The nature of class discussion could make the process very time consuming particularly when it goes off track and move entirely away from the point of discussion.

As prospective teachers who do not have much experience, it is certainly not an easy thing to control class discussion activities, this causes ineffective management of learning time. Difficulties in managing time were also experienced by other teachers, Aida (2015) reports that the teachers who were sampled in her research lacked good abilities in managing learning time. Time management in the learning process in the classroom is one of the eight factors of effective learning.

4. Conclusion

The Students of the Biology education program at PGRI Ronggolawe University Tuban, who carried out teaching practices in 2016, have good abilities in making learning design and implementing the teaching and learning process in the classroom. The average score of students for the aspects of making learning designs, at SMPN 4, SMPN 5, and SMPN 7 is in the very good category (A), with the average score in each of these schools respectively 81.17; 80.14; and 80.07.3. The average score of students for the aspects of implementing the teaching and learning process, at SMPN 4, SMPN 5, and SMPN 7, is also in the very good category (A). The average score obtained from these schools is respectively 80.79; 80.08; and 80.28.

Acknowledgemen

We would like to express our gratitude to the Headmasters of SMPN 4, SMPN 5, and SMPN 7 who have been willing to become partner schools in the implementation of the teaching practices.

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