

PERCEPTIONS (LECTURE, TEACHER, AND STUDENTS) ON SCIENCE TEACHING PROCESS FOR PPL PHYSICS STUDENT

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ABSTRACT

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Keywords: Science Teaching Process Praktik Pengalaman Lapangan Perceptions The Praktik Pengalaman Lapangan (PPL) program is an effort to introduce prospective teacher students to the world of their profession. PPL is one of the flagship programs of the Faculty of Tarbiyah and Teacher Training (FITK) at Al-Qur'an Science University in providing opportunities for students to practice teaching directly in the field. This research uses quantitative research using the true experiment method. Data collection uses observations supported by questionnaires. The questionnaires used consisted of 2 types, namely teacher and lecturer response questionnaires, and student response questionnaires. The data of this research were analyzed using statistic by finding the average value of the questionnaire data obtained. Based on the data analysis carried out, it was concluded that students had very good science teaching abilities based on the assessments of lecturers and teachers, as well as good based on student assessments of the learning process carried out by UNSIQ PPL students majoring in physics education.

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1. INTRODUCTION

Praktik Pengalaman Lapangan (PPL) is a program to introduce students majoring in education to the world of their profession (Fitria & Fidesinur, 2017). The flagship program at the Faculty of Tarbiyah and Teacher Training (FITK) Al-Qur'an Science University is field practice which gives students the opportunity to practice teaching directly at school. PPL itself is scheduled in odd semesters every year by FITK UNSIQ for 7th semester students. Students who take part in PPL will be distributed to schools in Wonosobo Regency, from the Early Childhood Education (PAUD) level to the High School (SMA) level. All students who took part in PPL were previously given a microteaching program and administrative training as students' initial training before going directly to face students at school. Through this PPL program, it is hoped that students will have teaching skills such as scientific and pedagogical disciplinary abilities, as well as skills in preparing good learning administration (Fitria & Fidesinur, 2017). All students who took part in PPL were previously given a microteaching program and administrative training as students who took part in preparing good learning administration (Fitria & Fidesinur, 2017). All students who took part in PPL were previously given a microteaching program and administrative training as students who took part in preparing good learning administration (Fitria & Fidesinur, 2017). All students who took part in PPL were previously given a microteaching program and administrative training as students' initial training before going directly to face students at school. Providing initial provision in the form of

microteaching can be a bridge for students to get used to a good teaching and learning process thereby increasing teaching motivation (Nasution, et al, 2022; Aida, 2019).

Practice in the field shows that there are still many students who do not master the material, administration and mental concepts sufficient to carry out PPL at the target school. Students' unpreparedness in carrying out the learning process in class during PPL implementation has a significant impact on the formation of students' knowledge, especially in relation to students' weak mastery of concepts. Students' weak understanding of concepts in teaching provides opportunities for students' misconceptions about the material they are studying (Anwar, 2017). The lack of preparation of students in teaching at school has an impact, namely a lack of understanding of the material studied by students (Wisyastutik, 2013). In line with Widyastutik and Anwar, Mulyani et al (2019) & Artha et al (2022) stated that students' interest in the learning process with PPL students is low, because conceptual abilities are still lacking.

Students' unpreparedness in teaching is due to several existing factors, one of which is students' lack of literacy in reading the material that will be given to students. Where most of the students only remember the material they have received in college, resulting in their mastery of the material being lacking. Literacy skills are one of the keys for students to master the material that will be given to students (Salmiah, 2022). Apart from the lack of student literacy, another factor that influences students' unpreparedness for teaching is students' weak public speaking skills. Public speaking ability is the main key to whether a learning process is successful or not, but in practice the majority of PPL students have not mastered this ability well. PPL students are really required to be able to speak in front of many people in any way, such as providing learning motivation to students and delivering good material (Mubaidillah et al, 2024). Observation and assessment of the readiness and teaching process of PPL FITK UNSIQ students is deemed necessary to improve the quality of PPL students' abilities for the following year.

Many previous studies have been conducted on assessing the readiness and teaching process of PPL students from the perspective of students or from the perspective of tutors, but no one has assessed the readiness and teaching process of students majoring in Physics Education from the three perspectives of students, teachers and lecturers. Several studies have been carried out regarding the assessment of PPL students, including by Indah & Aswardi (2022) regarding student perceptions of the teaching skills of PPL students majoring in electrical power installation engineering. Kristianto, Martias, & Wagino (2018) regarding student perceptions regarding teaching practices for educational field experience program (PPLK) students in the learning process at SMK N 1 Padang. Fuadi & Tulistiyono (2022) regarding students' positive perceptions of PAI FITK UNSIQ field experience practice teachers at Darunnajah Vocational School, Banjarnegara. Abbas et al (2023) regarding student perceptions of students regarding the perceptions of class IX students regarding the teaching abilities of PPL students. Meje et al (2022) regarding Gurung Pamong's perception of practical field experience (PPL) students' teaching skills.

Therefore, referring to the findings and results of many studies that have been carried out, it is considered important to carry out research related to teaching readiness and the teaching process of PPL students. This research will focus on assessing perceptions from the perspective of students, tutors and lecturers regarding teaching readiness and the teaching process of PPL students majoring in Physics Education.

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2. METHOD

The approach used in this research is quantitative. Quantitative is described as a type of research that observes an object which is then analyzed statistically (Sugiyono, 2022). Quantitative research in this research focuses more on experiments with true experimental methods. This method was used because the test subjects were selected randomly from the existing population (Zulfikar, et al, 2024).

The object of this research is the teaching ability of physics education students during the teaching process at school. The subjects of this research were 30 students in class 8A of SMP N 1 Kejajar, 1 science teacher who acted as a PPL assistant teacher, and 1 lecturer. This research was conducted for 1 month, to obtain accurate data about physics students' teaching abilities during the PPL process.

Data collection was carried out by means of observation supported by a questionnaire. The use of questionnaires in the data collection process is an effective method in supporting main data in quantitative research (Arikunto, 2018). The questionnaire given to test subjects contained information about students' abilities in teaching in a class. The questionnaires given consisted of 2 types, questionnaire responses from accompanying teachers & lecturers, as well as student response questionnaires about the learning process with PPL students.

The data collected consisted of accompanying teacher responses, lecturer responses, and student responses regarding the learning process with PPL students which were collected using a validated questionnaire. The data collected was then analyzed statistically by finding the average of the scores obtained using equation 1 below:

$$\bar{X} = \frac{\Sigma x}{n}$$

3. RESULTS AND DISCUSSION

3.1. Science Learning Process

Science learning provides experience by teaching how to analyze nature in a systematic way, so that the science learning process is not based on concepts alone but focuses more on the process of discovery through practicum (Arisanto, *et al* 2019). Science learning is a method used in observing the natural environment which is able to form new perspectives regarding the objects being observed (Surahman, *et al* 2020). Science is a step in understanding nature in a structured and systematic way so that it is able to explain how nature works so that science is indirectly able to change human attitudes and views about nature (Panggabean, *et al* 2021).

The aim of the science learning process in first level schools is that students are able to master natural concepts and understand them well. Apart from that, another goal is that students can use scientific methods in the process of solving problems in everyday life (Astuti, 2017). In line with Astuti, Kudisiah explained that the aim of science subjects is to provide experience to students so as to support their ability to develop an understanding related to material that is appropriate to the environment around students (Kudisiah, 2018).

3.2. Praktik Pengalaman Lapangan (PPL)

The PPL program is a step prepared by an educational institution for students as an effort to provide opportunities to train to become teachers directly at school (Usman, 2014). PPL is an activity organized for teacher program students to practice teaching so as to provide opportunities to develop teacher professional competence (FITK, 2022).

PPL is carried out with the aim of getting opportunities to teach, guide and provide training as something that must be honed by prospective teachers (Fitria & Fidesrinur, 2017; Widiyastutik, 2013; Anwar, 2017). Prospective teacher students must understand the objectives of the learning process they will undergo so that they are able to develop knowledge, attitudes and skills in teaching (Widiyastutik, 2013).

The PPL program at FITK UNSIQ has a credit weight of 4 credits. The PPL program is mandatory for all 7th semester students under the auspices of FITK UNSIQ.

3.3. Validity and Realibity Test

Validity is a measurement that indicates the validity of the instrument (Siyoto & Sodik, 2015). Validation aims to understand that the instrument items are declared statistically valid. Instrument validity is carried out in one stage, namely empirical validity testing.

Empirical validity is analyzed after the instrument is used by test subjects to determine the validity of the instrument items used. This research used 30 test subjects for the empirical validation stage. The number of samples used in the empirical validation stage is based on the smallest sample size that can be used for the empirical validation process, namely 30 (Lestiyawati & Adi, 2021). Empirical validity was analyzed using the SPSS program with the Pearson product moment test used.

The conclusions of the empirical validity analysis are in Table 1 below

Table 1. Empirical Validation Calculations			
Number	r count	Intepretation	
4	0.598	Valid item	
9	0.778	Valid item	
15	0.692	Valid item	
1	0.295	Not Valid	
5	0.760	Valid item	
13	0.464	Valid item	
10	0.470	Valid item	
14	0.640	Valid item	
2	0.643	Valid item	
7	0.280	Tdk Valid	
11	0.537	Valid item	
12	0.295	Not Valid	
6	0.455	Valid item	
8	0.445	Valid item	
3	0.382	Valid item	

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Based on Table 1, there are 15 items in the instrument that are declared valid, totaling 12, and 3 items that are declared invalid. Determining whether or not an item in the questionnaire is valid is based on the r value of the table which is used as a reference. The r table value was analyzed using a significance level of 5% and the degree of freedom (dk) obtained a value of 0.367. Instrument items are declared to have passed if the calculated value of r is higher than the specified table value (Purwanto, 2018). Referring to the r table value of 0.367, the invalid instrument items are shown in numbers 1, 7, and 12 where these three items have calculated values below the specified table value. Question number 1 resulted in an r calculation of 0.295, which is below that it is still below the specified table r value, namely 0.367. Question number 12 obtained an r calculation of 0.295, this value is also still below the table r value.

Reliability is the relationship between trustworthiness and accuracy and consistency (Siyoto & Sodik, 2015). The purpose of conducting a reliability test is to determine the consistency of the instrument used. The reliability of the instrument was analyzed using the SPSS application, with the test used being Cronbach's Alpha.

The instrument reliability calculation is summarized in Table 2 below

Table 2. Realibility of Instrument				
r count N of Item Intepretation				
0.649	15	Reliable		
		instrument		

Table 2 informs that the instrument is declared reliable based on calculations using Cronbach's Alpha. Conclusions are drawn based on the rules for using the Cronbach's Alpha test, where if the calculated r is more than the r table value (r calculated > r table), then the instrument is declared reliable (Warnilah, 2018). The results of the analysis carried out obtained a calculated r value of 0.649, while the r table value with a significance of 5% was 0.367, so it was concluded that the instrument was declared reliable.

3.4. Analysis of Questionare Result

This stage was carried out as a step in collecting information about the assessment of lecturers, teachers and students regarding the readiness to teach science for UNSIQ PPL students in 2022. The data collected was then analyzed by adding up the scores for each aspect on the questionnaire which was used as a data collection instrument. The scores obtained are then analyzed as an average

$$\bar{X} = \frac{\Sigma x}{n}$$

The next analysis is to calculate the average score obtained from the results of the assessments carried out by the test subjects. The results of the response analysis are then compared with the assessment criteria in Table 3 below

Range	Туре
X ≤ 1,7	Not very good
$1{,}7{<}X{\le}2{,}5$	Not good
2,6 < X < 3,2	Pretty good
$3,3 \leq X < 4,2$	Good
X ≥ 4,2	Very good

Table 3. Categorization of Subject Responses (Dewi, et al, 2019).

Based on Table 3, a student's mastery of science concepts is said to be good if it is in the good category.

The results of the responses of lecturers, teachers and students on science teaching process for UNSIQ PPL physics students are summarized in Tables 4, 5 and 6 below.

Number	Aspect	Value	Criteria
1	Students convey the material coherently	4	Good
2	The delivery of material by students is easy to understand	5	Very Good
3	Students provide examples of questions that are appropriate to the context of the material	5	Very Good
4	Student are able to solve questions in the context of the material presented	4	Good
5	Student insight into broad material	5	Very Good
6	Students are not motivated by textbooks when presenting material	4	Good
7	Students are able to answer students' questions related to the material being taught	5	Very Good
8	Students are not nervous when presenting the material	5	Very Good
9	In delivering the material, students do not hesitate	5	Very Good
10	The learning process with students is fun	5	Very Good
	Average	4.7	Very Good

Number	Aspect	Value	Criteria
1	Students convey the material coherently	4	Good
2	The delivery of material by students is easy to understand	4	Good
3	Students provide examples of questions that are appropriate to the context of the material	5	Very Good
4	Mahasiswa mampu menyelesaikan soal-soal dalam konteks materi yang disampaikan	4	Good
5	Student insight into broad material	5	Very Good
6	Students are not motivated by textbooks when presenting material	5	Very Good
7	Students are able to answer students' questions related to the material being taught	4	Good

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	Average	4.6	Very Good
10	The learning process with students is fun	5	Very Good
9	In delivering the material, students do not hesitate	5	Very Good
8	Students are not nervous when presenting the material	5	Very Good

Number	Aspect	Value	Criteria
1	The learning process with students is fun	3.59	Good
2	The delivery of material by students is easy to understand	3.55	Good
3	Students provide examples of questions that are appropriate to the context of the material	3.63	Good
4	Students are able to solve questions in the context of the material presented	3.59	Good
5	Students use learning media when teaching	3.45	Good
6	The learning media used by students is interesting	3.47	Good
7	The learning media used is appropriate to the material	3.45	Good
	Average	3,53	Good

Table. 6. Student Response Analysis

Based on Tables 4, 5, and 6, it can be concluded that the PPL UNSIQ Physics students at SMP N 1 Kejajar are very well prepared to teach science based on the assessments of teachers and lecturers, as well as getting good conclusions based on student assessments. The conclusion results were categorized as good and very good because it looked at the students' abilities in the teaching process. A teacher's good teaching ability will be well perceived by observers, this can be seen from how interested the students are in participating in the learning process (Suwahyu, 2017).

3.5. Discussion

The PPL program is a program designed by FITK UNSIQ to provide opportunities for students to practice teaching at school. Every student under the auspices of FITK UNSIQ is required to take part in this PPL program, as a prerequisite for prospective educators. This PPL program is implemented in odd semesters each year, with a duration of approximately 40 active working days. In this PPL program, prospective teacher students learn how to teach well with guidance from accompanying teachers. Apart from teaching and learning, students also learn about other school administration.

Based on the data from the research results, it can be synthesized that UNSIQ PPL Physics students at SMP N 1 Kejajar who teach science subjects are in the very good category according to the assessments of teachers and lecturers, as well as in the good category according to the students' assessments. The results of the assessment are based on students' skills and readiness in teaching in class, where stundents are able to master class well as demonstrated by how to deliver the material, using appropriate media as a means of communication and students can feel. This is supported by research conducted by Meha and Bullu (2021) which states that PPL students'

teaching readiness will have an impact on their basic teaching skills in class, which will indirectly attract students' attention. One of the factors that influences the quality of students' science teaching is the students' readiness in preparing materials, learning media, and selecting appropriate learning models, so that students can be interested in following the learning process. The communication component in the teaching process in the classroom consists of the teacher, teaching materials, learning media, learning models, and students. The five communication components must be well prepared to support the quality of teaching and learning (Adi & Kurniawan, 2018). Apart from student readiness, teaching ability is also a factor in students' success in teaching science in the classroom. A professional student teacher candidate must have 8 basic educational skills, namely opening and closing learning, explanation skills, questioning skills, reinforcement skills, variation skills, leadership skills in small discussion groups, class management skills, and group learning skills (Huda & Yudiono, 2016).

Another skill that a teacher must have in the teaching process is oral communication skills, which is the main ability that a teacher must have, because good oral communication skills will grow self-confidence in the teacher. Good oral communication skills will make it easier for a teacher to manage the class well, besides that, good communication skills will also foster students' interest in participating in the learning process being carried out (Mustapa et al, 2023; Lukitawati, 2023; Usman, 2020). The results of the research also show that physics education students who carry out PPL at SMP N 1 Kejajar have good communication skills, this can be seen from the students' assessments which state that learning with students meets the criteria of being very good.

The results of this research are in line with research conducted by Sombo et al (2019); Meje et al (2022); Syahrinur et al (2024); Wulandari & Syaputra (2022), where research conducted shows that PPL students have good teaching skills. These skills result from assessment by tutors and students.

4. CONCLUSION

The conclusion of this research is PPL students at SMP N 1 Kejajar have very good science teaching abilities based on lecturers' and teachers' assessments, and are good based on student assessments of the learning process carried out by UNSIQ PPL students majoring in physics education. Physics education students have been able to manage the class well, this can be seen from the enjoyable learning process carried out by students based on student assessments. Apart from that, physics education students in the teaching process have used learning media that are appropriate to the material being taught. This is very good, considering that learning media is a form of communication in the ongoing learning process. The good teaching ability of physics education students becomes a guideline for subsequent PPL activities.

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