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SCIENTIFIC SCIENCE COMMUNICATION PROFILE OF SCIENCE EDUCATION STUDENTS

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Abstract: In the assessment process the most widely carried out is how students are able to present a good level of memorization in terms of cognitive assessments that are widely considered, but the assessment is not focused on how students are able to understand concepts and be able to apply and communicate that knowledge. in IPA learning is known as scientific communication where a non-technical skill that includes, teaching, writing mentoring, leading and working in teams. This study aims to determine how the scientific communication profile of science education students (Umsida). The population in this study were students of Muhammadiyah University of Sidoarjo Science Education in semester 2. Data collection was obtained by an observation that is to determine how scientific communication of students is then analyzed how the ability of scientific communication consisting of 8 indicators. The results of the study show that scientific communication of Ipa students is in the Enough category.

Keywords: Profile, Skills, Scientific

INTRODUCTION

The learning process is a process of interaction between teachers and students in an educational activity. where in a learning process there are students as recipients of information and teachers as givers of information, where these activities take place together so that there is an interaction between teachers and students. (Suprihatiningrum, 2013). In an S1 strata education unit, students as a product of the learning process must meet graduation standards before actually applying their knowledge outside the campus. The standard of a graduate from a tertiary institution is a minimum criterion which consists of 3 things, namely the attitude of knowledge and skills, where the 3 components are contained in the achievement of graduate learning or better known as learning outcomes (CP). The formulation of the CP in terms of general attitudes and skills is arranged in the Permenristekdikti by the government, namely in Permenristekdikti no. 44 of 2015 (SN Dikti) article 5 verse 1. (Ridwan, 2016).

communication is a process in which there is an effort to provide an understanding by transferring messages from someone to others, which are carried out verbally or non-verbally with the aim of being understood by both parties. (Stoner, et al. 1996). The learning process is said to be successful if a student's level of understanding can increase. Increasing understanding of students is also influenced by how communication skills in a learning process. (Noviyanti, M, 2017).

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Scientific communication is a non-technical skill which includes, teaching, writing mentoring, leading and working in teams, (Spektor-et al, 2009). Measurements in writing or verbally can be done in measuring the scientific communication of students in practical activities. In a learning, process Communication is expected not only communication that only emphasizes certain students but is a comprehensive communication. Every student involved in learning has the same opportunity to be active in the communication process of learning. for example in terms of questions, presenting the results of work, discussions, opportunities to ask questions and respond to answers and respond to problems and be active in expressing their opinions. Every student has an equal opportunity to be active in the learning communication process in order to develop his knowledge. The Learning Process can be done through the presentation of work results, discussions, expressing opinions, opportunities to ask questions, and responding to problems from students, (Sasono, 2014).

A researcher must be able to communicate the problems to be solved, how to get data, analyze the data obtained and conclude the results through the language of scientific communication. so that researchers in the realm of the learning process in universities are students must be able to master this scientific skill to be able to communicate findings and ideas that can be at the time of research on others. (Sarwanto, 2016). Given the importance of communication mentioned above, scientific skills are very important to measure in the learning process to be able to improve learning. In fact, the skills assessment process is often carried out but not structured and written. In the assessment process, the most widely carried out is how students are able to present a good level of memorization in terms of cognitive assessments that are widely considered, but the assessment is not focused on how students are able to understand concepts and be able to apply and communicate that knowledge. (Kuswanto, 2018), so that with this background it is necessary to measure how the scientific communication skills of students, especially in science education at Muhammadiyah University in Sidoarjo.

APPROACH & RESEARCH METHOD

This study aims to see how the profile of the communication skills of natural science education students. Based on the objectives of the study, the research method used is descriptive quantitative. This research was conducted on April 16-23 2017 at the Muhammadiyah University of Sidoarjo, Faculty of Teacher Training and Education at the Science Education Study Program. Retrieval of data using saturated sampling where all members of the population are used as samples (Sugiono, 2017), where the subjects used in the study were 17th semester students as many as 17 of 17 student students, using saturated sampling techniques. to achieve the goal, the instrument used is the observation instrument of scientific communication skills consisting of 8 indicators by analyzing the measurement of instruments using the renting scale which

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is used as an alternative answer 1-4 with categorical (not very good) can be seen in table 2.1, (Sugiono, 2017)

Table 2.1 Score results of Student Scientific Communication (Sugiono, 2017)

NO	SCORE	CATEGORY
1	1	LESS
2	2	ENOUGH
3	3	GOOD
4	4	VERY GOOD

RESULTS AND DISCUSSION

The following are the results of research on scientific communication at the University of Muhammadiyah Sidoarjo education students in Sidoarjo.

Table 3.1. Research Results Scientific communication skills

NO	OBSERVATION CATEGORY	VALUE	CATEGORY
1	THE RELEVANCE OF INFORMATION TO THE ISSUES DISCUSSED	2	ENOUGH
2	EXTENT IN CONVEYING INFORMATION, EXPLANATIONS, AND ARGUMENTS DISCUSSED	3	GOOD
3	CLARITY IN CONVEYING INFORMATION, ARGUMENTS, AND EXPLANATIONS	3	GOOD
4	CONFORMITY BETWEEN ARGUMENTS BETWEEN ANSWERS AND QUESTIONS	2	ENOUGH
5	ABLE TO COMMUNICATE RESULTS IN THE FORM OF DIAGRAMS OR WRITING	2	ENOUGH
6	THE LANGUAGE'S RIGIDITY WHEN DELIVERING RESEARCH INFORMATION CONVEYS AN EXPLANATION USING ARGUMENTATION	3	GOOD
7	MASTERY OF THE MATERIAL SEEN FROM THE FLUENCY OF SPEECH WHEN CONVEYING INFORMATION, CONVEYING EXPLANATIONS AND ARGUING	2	ENOUGH
8	CONFORMITY BETWEEN INFORMATION ARGUMENTS AND EXPLANATIONS WITH THE CONCEPTS LEARNED	2	ENOUGH
AVERAGE		2	ENOUGH

Based on the results of student communication skills in the observation table carried out quantitatively descriptive by using as many as 17 students by using the instruments of scientific communication skills of students then by using a range of 1 to 4 with less to very good categories. Very well, it was found that on the indicator of the relevance of information with the problems discussed on average students get a value of 2 with a sufficient category, on the indicators of breadth in conveying information, explanations and arguments discussed on average students get a value of 3 with a good category, on indicators Clarity in conveying information, arguments and explanations on average 3 in the Good category. On the indicator of compatibility between arguments between answers and the average question the value obtained is 2 with the Enough category. On indicators Conformity between arguments between

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answers and questions gets an average value of 2 with the Enough category. In the Language Stiffness Indicator when delivering research information, conveying an explanation using the argumentation gets a Good average score. On the mastery indicators of the material observed from the fluency of speech at the time the information was conveyed, argued and conveyed the explanation, the average score was 2 in the Enough category. on the continuity indicator between the arguments and explanations delivered with the concepts that have been studied, get an average value of 2 with a good enough category.

CONCLUSION

Based on the research that has been done, the scientific communication skills of students of 2nd semester science education in Muhammadiyah Sidoarjo University are in the category.

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