



The correlation between communication skill and basic teaching skill of prospective biology teachers



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ABSTRACT

This study aims to determine the correlation between communication skills and basic teaching skills of biology education students as prospective biology teachers at the State University of Medan. The method used in this study is a quantitative approach with correlational data analysis, with a sample of 30 students. Data collection using observation techniques. Data analysis in the form of linearity tests and Pearson product-moment correlation tests. Data on communication skills and basic teaching skills are normally distributed and have a linear correlation. However, after the correlation test was carried out, the significance. (2-tailed) The value was obtained between communication skills and basic teaching skills of $0.063 > 0.05$, which means that there is no significant correlation between communication skills and basic teaching skills. Meanwhile, based on the calculated r (Pearson Correlation) of 0.344, the strength of the correlation is that there is a low correlation between communication skills and basic teaching skills. So it can be concluded that communication skills and basic teaching skills have a low correlation.

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INTRODUCTION

Learning is the main process in education. Learning is creating a learning environment in which teachers, students, and other learning elements interact to achieve learning goals. The goal of biology learning is for students to understand, discover, and explain biological concepts and principles (Nurrama et al., 2019). Teachers, students, and facilities influence the success of learning (Solekhah et al, 2020). Learning is an educator's effort to enable the process of acquiring knowledge, mastering skills, and forming attitudes and beliefs in students (Sabrina and Mega,



2024). In this case, the position of the teacher has a very important role in learning and is one of the components that contributes greatly to the progress of education (Nurhikmah et al., 2019). In addition, in the learning process, it is very necessary to equip students with 21st-century skills. 4C skills, as supporting 21st century skills, include critical thinking, creative thinking, communication, and collaboration (Greenstein, 2012). Thus, before teaching 21st-century skills to students, teachers must first have these skills. One of the skills that teachers need to support successful learning is communication skills.

Communication is the most basic part of human life, because communication is an important part of humans. This is because communication allows people to build a frame of reference and use it as a guide to interpret any situation they face. Through communication, people can learn and apply ways to overcome problems in community life (Afandi, 2024). Communication can be said to be effective if the communication can meet the indicators of achievement in communication skills (Handayani et al., 2021). In the world of education, the learning process takes place effectively if communication and interaction between teachers and students occur intensively (Hasanah & Nasir, 2020). Communication is very important to be carried out as well as possible in the learning process, especially between teachers as educators and students as learners (Aziz, 2019).

In the era of 21st-century learning era, teachers are required to understand the skills needed by students in facing global challenges (Rosiani, 2023). Competencies in 21st-century learning are not only trained for students, but must also be mastered by prospective teachers so that later, when teaching in schools, they can guide and facilitate students in acquiring critical thinking skills, creative thinking skills, communication skills, and collaboration. Communication skills are skills in expressing ideas, knowledge, new information, or thoughts orally or in writing (Redhana, 2019). As prospective teachers, good communication skills are essential in the learning process so that learning objectives can be achieved. The teacher's communication skills in the classroom can be seen through the basic teaching skills possessed by the teacher (Nurwahidah and Diah, 2024). In addition to communication skills, prospective teachers are also required to master basic teaching skills well.

According to Asril (2010), basic skills are skills that must be possessed by every individual who works as an educator. Including explaining skills and asking skills. A learning process is said to be good if the process can generate effective learning activities. The effectiveness of teaching in a good learning interaction process is an effort by educators to increase the success of students in mastering what is taught. Teaching skills according to Kyriacou are coherent activities by teachers (Karami & Attaran, 2013) with specific teaching and procedures that teachers can use in their classrooms. Teaching skills are actions to facilitate student learning directly or indirectly (Samson Vjyayanthi, 2013) to achieve learning goals (Adediwura & Tayo, 2007). Basic teaching skills include, 1) questioning skills, 2) reinforcement skills, 3) skills in using variations, 4) skills in providing explanations, 5) skills in opening and closing lessons, 6) skills in guiding small group discussions, 7) classroom management skills, and 8) educational interactions, 9) classroom arrangement and, 10) small group and individual teaching skills (Damanik et al., 2021). Teachers who have good basic teaching skills are very important to improve the quality of the learning process. If prospective teacher students cannot apply basic teaching skills, they will have difficulty when practicing directly in the field. Thus, this study aims to determine the relationship between communication skills and basic teaching skills of Unimed biology education students as prospective biology teachers.

RESEARCH METHODS

Research Design

The method used in this study is a quantitative approach with correlational data analysis. Quantitative methods emphasize analysis of quantitative data (numbers) collected through



measurement procedures and processed using statistical analysis methods. The correlation type determines the strength and direction of the relationship between variables, seeing the extent to which variations in one variable are related to variations in one or more other variables (Azwar, 2017:5). This study examines the relationship between communication skills as an independent variable (free variable) and basic teaching skills as a dependent variable (dependent variable).

Population and Samples

The population in this study was all Biology Education students of FMIPA Unimed who took the microteaching course. The sample used in this study was 30 students, with a random sampling technique.

Instruments

Data collection was carried out by observation when students were practicing in the microteaching course. The observers used were 3 people.

Procedures

This study examines the relationship between communication skills as an independent variable (free variable) with basic teaching skills as a dependent variable (dependent variable). This study was conducted at the State University of Medan, located on Jl. Wiliam Iskandar Medan Estate. The research period was from January to November 2024.

Data Analysis

Then the data on communication skills and basic teaching skills are interpreted into the criteria in Table 1. The criteria for basic teaching skills can be seen in Table 2.

Table 1. Communication Skills Assessment Criteria

Range of value	Category of value
90-100	Very high
80-89	High
65-79	Enough
55-64	Low
0-54	Very low

(Ayu dan Ganesha, 2016)

Table 2. Basic Teaching Skills Criteria

Range of values	Category of value
>80-100	Very high
>60-80	High
>40-60	Enough
>20-40	Low
0-20	Very low

(Sikumbang et al., 2023)

The data analysis method in this study used Pearson's product-moment correlation analysis with SPSS 19.0 software. The stages of the data analysis technique were carried out in three stages, namely the normality test, the linearity test, and finally the hypothesis test. The normality test aims to see the pattern of data distribution using Shapiro-Wilk, where the data can be said to be normally distributed if the significance value is > 0.05 (Sugiyono, 2017).

The second stage is the linearity test, which aims to see how the correlation between variables is formed using the test for linearity, where the data can be stated as linear if the significance value

of the linearity deviation is > 0.05 (Sugiyono, 2017). The last stage is the hypothesis test with the Pearson product-moment test, which aims to determine the relationship between variables, where the variables can be said to be related if the significance value is < 0.05 (Azwar, 2012). All stages of the research data analysis were carried out using SPSS 19.0 software.

RESULTS

The data obtained from this study are in the form of observation results conducted by 3 observers, then the data is analyzed in stages, starting with the normality test, linearity test, and Pearson product-moment correlation test. The results of data calculations from communication ability observer data can be seen in Figure 1.

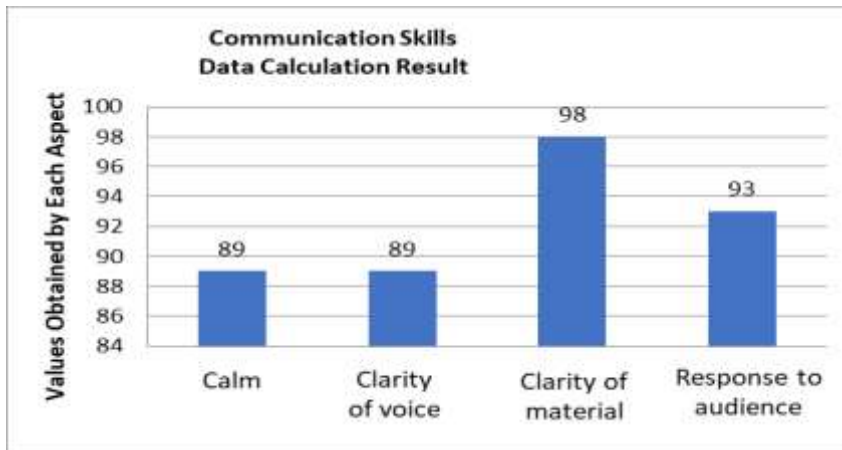


Figure 1. The research results

Based on the image above, it can be seen that the aspects of calmness and clarity of voice are in the high category, while the aspects of clarity of material and response to the audience are in the very high category. The aspect of clarity of material has the highest value, this is because a teacher can control his emotions so that he can have good calmness. This also makes the teacher's voice in delivering the material sound clear, so that the material delivered to students is very clear. Thus, students can provide feedback in the form of active responses in the learning process.

The results of the calculation of data from the basic teaching skills observer data can be seen in Figure 2.

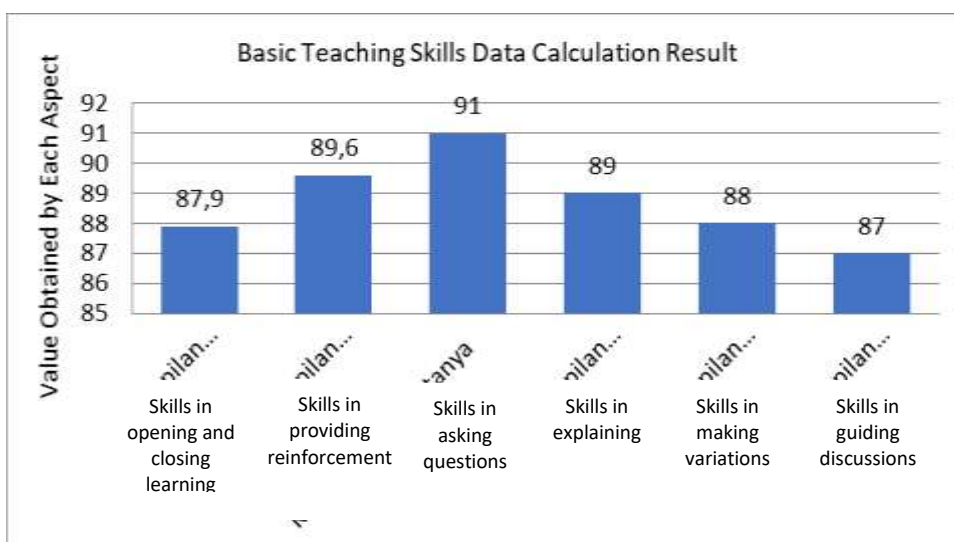


Figure 2. Basic Teaching Skills Data Diagram

Based on the diagram above, it is known that from all aspects of basic teaching skills, very good criteria were obtained, where students already have very good basic teaching skills. Thus, it is hoped that these basic teaching skills can be implemented very well when teaching so that learning objectives can be achieved.

The data that has been obtained underwent a normality test was carried out first before the linearity test stage. The results of the normality test of the communication skills and basic teaching skills data can be seen in Table 5.

Table 5. Data Normality Test

Variabel	Test of Normality					
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Nilai Kemampuan Komunikasi	.144	30	.115	.941	30	.095
Keterampilan Dasar Mengajar	.116	30	.200	.942	30	.106

Based on Table 5, it can be seen that sig. (2-tailed) is $0.095 > \text{sig. } (\alpha)$. Therefore, the data obtained is normally distributed. After knowing the data is normally distributed, the next step is to conduct a linearity test. The results of the linearity test of the communication ability data with basic teaching skills can be seen in Table 6.

Table 6. Data Linearity Test

ANOVA Table							
		Sum of Squares	df	Mean Square	F	Sig.	
Basic Teaching Skills * Communication	Between Groups	(Combined)	1020.200	10	102.020	2.532	.039
		Linearity	210.806	1	210.806	5.231	.034
		Develation from Linearity	809.394	9	89.933	2.232	.067
	Within Groups	765.667	19	40.298			
Total		1785.867	29				

Based on Table 6, it can be seen that sig. (2-tailed) is $0.067 > \text{sig. } (\alpha)$. Therefore, the data obtained has a linear relationship. Then, the data was tested using the Pearson product-moment correlation test, with the results listed in Table 7.

Table 7. Pearson Product-Moment Correlation Test

Correlations			
		Communication Skills	Basic Teaching Skills
Communication Skills	Pearson Correlation	1	.344
	Sig. (2-tailed)		.063
	N	30	30
Basic Teaching Skills	Pearson Correlation	.344	1
	Sig. (2-tailed)	.063	
	N	30	30

Based on the sig. value (2-tailed) between communication skills and basic teaching skills is $0.063 > 0.05$, which means there is no significant correlation between communication skills and

basic teaching skills. Meanwhile, based on the calculated r (Pearson Correlation), which is 0.344, the correlation strength criterion is that there is a low or weak relationship between communication skills and basic teaching skills.

DISCUSSION

Based on the results obtained, there is no significant relationship between communication skills and basic teaching skills of students, but Unimed biology education students already have communication skills in a very high category and very good basic teaching skills. That way, these students are expected to be able to provide good learning by achieving the learning objectives. In communication skills, there are aspects of calmness and clarity of voice that have the lowest values. This can happen because the two aspects are related.

When a teacher feels uneasy and nervous, the learning delivered through voice can be less clear, so that students cannot hear directions properly. Therefore, in delivering teaching materials to students, a teacher who has good calmness and clarity of voice can encourage students to be able to absorb lessons and achieve a smooth learning process, and can achieve maximum results. Because communication between teachers and students that does not function properly can cause problems in the classroom (Lestari and Salmahtus, 2019).

Good communication is two-way communication between teachers and students so that students can discuss constructively, which can encourage students to be more involved in the classroom. The role of teachers in the classroom includes the process of conveying information to themselves, to students, to superiors, to parents of students and to the community in general.

Building communication between teachers and students in learning can function as a means of control, motivation, emotional expression, information, discussion materials, socialization, entertainment, integration, education, and culture (Karnawati & Priansa, 2015). In addition, Duta (2015) stated that communication skills are very important skills, especially for teachers in conveying ideas, information and opinions conveyed to students so that they are required to have effective communication skills so that communication skills must be possessed in the 21st century by prospective teacher students to communicate effectively, efficiently and enjoyably, especially in solving problems and making decisions in classroom learning.

This is by Argaw's statement (2019), which states that prospective professional teachers must be skilled in communicating and solving problems faced so that they can design learning that is interesting and meaningful. In basic teaching skills, the aspect with the lowest value is the aspect of discussion guidance skills. This can happen due to several things, such as a lack of preparation by a teacher or a lack of understanding by students, so that there is no reciprocity in the learning process. For learning to run well, teachers need to master the skills in guiding discussions.

According to Rusman (2013), discussion guidance skills are one way that can be done to facilitate the learning system needed by students in groups. For this reason, teachers' skills must be trained and developed so that teachers can serve students in carrying out learning activities. Basic teaching skills as a professional talent require very good management, which must be learned over a fairly long period and in a systematic learning process (Hasanah, 2012).

In other words, to become a professional teacher, prospective teachers must undergo education to master basic teaching skills. Therefore, as prospective biology teachers, it is expected that to will continue to practice basic teaching skills to become professional teachers in the future. The weakness of this study is the lack of samples used, so it is hoped that further research can use samples of a larger size to obtain more valid data..

CONCLUSION

Based on the research results, it can be concluded that the significance. (2-tailed) The value between communication skills and basic teaching skills is $0.063 > 0.05$, which means that there is



no significant correlation between communication skills and basic teaching skills. Meanwhile, based on the calculated r (Pearson Correlation), which is 0.344, the correlation strength criterion is that there is a low or weak relationship between communication skills and basic teaching skills. Thus, there is no significant relationship between communication skills and basic teaching skills.

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