ANALYSIS OF THE RELATIONSHIP BETWEEN EFFECTIVE COMMUNICATION WITH STUDENTS LEARNING OUTCOMES IN PHYSICS LESSON CLASS XI MIA SMA AL FITYAN MEDAN ACADEMICS YEAR 2020/2021

Muhammad Rahman[1] and Ridwan Abdullah Sani[2]

[1, 2] Physics Department of Universitas Negeri Medan, Medan 20113, Indonesia
Email: irhamramadhani@unimed.ac.id

Abstract

This study aims to determine the relationship between effective communication and student learning outcomes in Physics class XI MIA SMA Al Fityan Medan T.A 2020/2021. The research method used is descriptive quantitative with the type of research used being correlational research. To obtain the necessary data, in this study the researchers used a data collection tool in the form of a questionnaire. For effective communication variables, an average score of 74 is in the medium category, while student learning outcomes in Physics class XI MIA SMA Al Fityan Medan get an average score of 87 and are in the medium category. In this study, the correlation coefficient between effective communication and student learning outcomes in Physics class XI MIA SMA Al Fityan Medan was obtained rcount = 0.515 with r_{table} = 0.162 at the significance level = 0.05, thus rcount > rtable or rcount value is greater than rtable, then effective communication has a positive relationship with student learning outcomes in Physics subjects. The coefficient of determination (KD) of effective communication is 26.6%. Based on the data analysis and discussion conducted, it can be concluded that the hypothesis states "there is a positive and significant relationship between effective communication and student learning outcomes in Physics class XI MIA SMA Al Fityan Medan T.A 2020/2021" can be accepted.

Keywords: Effective Communication, Student Learning Outcomes, Correlational Research

Education and teaching are complex issues in which many things affect them. One of these is communication between educators and students or students and educators. Communication is a component of teaching that plays a very important role because the success of education and learning is generally determined by communication factors.

Communication is the interaction that occurs between the communicant and the communicator. Communication includes the delivery of information or messages conveyed by the communicator to the communicant. The interaction that occurs between the communicant and the communicator is called the communication process. The communication process aims to build a relationship between the communicator and the communicant. In addition, communication also serves to convey information, teach, entertain, and change attitudes.

In the world of education, communication may be the main thing. In learning,

communication is used to convey messages, both in science and technology. The success or failure of information conveyed to students is largely determined by effective communication. According to Muamar (2015), to achieve teaching and learning interactions it is necessary to have clear communication between teachers (communicators) and students (communicants). So that it integrates two activities that are effective in achieving teaching and educational goals where students can be successful in their learning tasks, as well as teachers can successfully teach and educate by the goals to be achieved.

Student learning outcomes are strongly influenced by existing communication between educators and students or vice versa, as well as communication between students and other students. Successful communication is seen as important and must be present in classroom learning. If communication between educators and students is not effective, it can make the message conveyed by educators in the form of inspiration, guidance, advice, and learning materials not delivered as expected, can cause students not to understand the material, and then the message is not understood by students so that it can affect learning outcomes students are bad. In this way, both educators and students must have good communication skills to produce a good and quality learning process (Rian, 2016).

The results of interviews with physics teachers at SMA Al Fityan Medan that students' communication skills are included in the poor category because it can be seen from 1) at the time of learning students pay less attention, are passive, feel bored and sleepy, 2) students rarely ask questions in class, 3) students rarely do demonstrations to express their opinions, 4) students are rarely faced with a problem and then solve it, 5) students tend to be individualistic and don't care about friends, 6) students only see physics as a subject with calculations whose results are certain, do not view physics as a science that can develop a technology that is useful for life.

In addition, based on observations made by the author on students of class XI MIA-1 SMA Al Fityan Medan by giving practice questions to students, it appears that students have difficulty answering these questions, so that when the assessment was carried out the author found that the learning outcomes of class XI

MIA SMA Al Fityan Medan is classified as not good because of the 30 students in the class only 30% of students scored > 75 while the other 70% of students scored < 75, this shows that only 30 students who scored > 75% of the 30 students were able to achieve a standard. Minimum Completeness Criteria (KKM) is 75.

The case above clearly shows that student learning outcomes are influenced by effective communication between educators and students and vice versa, so for this situation, effective communication is very influential in finding solutions to students' learning problems so that students get good learning outcomes. The communication factor determines the achievement of teaching and learning, the task of an educator is to convey material to students and become a facilitator to grow student potential. While the task of students is to pay attention to the teacher's explanation and play an active role in teaching and learning activities. Without effective communication, both between educators and students and the absence of student participation in learning will result in the delivery of material being bad as well, as was the case in the initial observations made by the author.

Effective communication also affects students' active participation in learning interactions and will improve student learning outcomes. Therefore, educators and students should focus on improving their communication to get a conducive classroom atmosphere and good student learning outcomes. Establishing effective communication between educators and students will result in an effective relationship between the two. Educators become good communicators and students become good listeners. Students will shortly be good communicators and educators with the right to be good listeners.

Effectiveness is an action that states how far the goals (amount, quality, and time power) have been achieved by management where the goals have been previously completed (Ngalimun, 2017). Effective communication is communication whose results are by the expectations of the members (individuals who deliver) (Mulyana, 2011). A good relationship will make it easier for educators and students to see each other's character. Educators will have no difficulty in guiding students to achieve learning goals (Danim, 2015).

For communication with students to run effectively, educators must pay attention to several conditions, as follows: (a) create a positive communication climate for students; (b) using language that is easy to catch and understand by

students; (c) the message conveyed can stimulate students' attention or interest; (d) messages can arouse students' interests which can be useful; (e) messages can foster an appreciation of students (Dirman and Juarsih, 2014).

According to Suryana (2013), effective communication is summarized in one word that reflects the essence of communication itself, namely REACH (Respect, Empathy, Audible, Clarity, Humble) which aims to achieve or achieve. Because actually communication is an effort to get attention, love, interest, concern, sympathy, response, and positive response from other people.

According to Suryana (2013), the attitude of respect is the main law in communication, namely respect for every person who becomes the destination of the messages we convey. Mutual respect and concern are the main laws in our communication with others. In principle, people need to be valued and considered important. According to Mulyana (in Hardadedali, 2015), the things that need to be considered are: 1) speaking in a friendly and friendly manner, 2) respecting other people's judgments, 3) paying attention to others with great attention, 4) Skilled in conveying (realizing when want to change the subject).

According to Suryana (2013), empathy is the ability to put oneself in a situation or condition faced by others. One of the basic requirements to have empathy is our ability to listen or see first before being heard or felt by others. According to Gazda in Asri Budiningsih (2004) there are three characteristics of empathy, specifically: 1) listening carefully to what other people say, how they feel, what happened to them, 2) compiling appropriate words to describe individual feelings and circumstances, 3) use word order to identify other people and try to understand their feelings and circumstances.

According to Suryana (2013), audible attitudes include being able to be heard or understood well. This attitude means being able to listen first or receive feedback. Together with so that the message conveyed can be generally accepted by the recipient of the message, it is important to pay attention to the things that accompany it: 1) convey important data/messages 2) use a voice that can be heard and understood well by the audience, 3) using simple language that can be understood and understood by the audience.

According to Suryana (2013), the attitude of clarity is the message to be clear

to avoid multiple interpretations or different interpretations. The indicators for the attitude of clarity (openness) are: 1) the existence of information that is easily understood and accessed, 2) the existence of openness of information about something.

According to Suryana (2013), the attitude Humble is an attitude that is related to the attitude of respect. To build a sense of respect for others, usually based on an attitude of humility possessed. Indicators of humble attitude are: 1) likes to help others, 2) accepts criticism from others, 3) dares to admit mistakes, 4) forgives the mistakes of others.

The relevant research that has been done before is research by Mashita (2011) with the title "The Influence of Learning Communication Skills on Students' Interest in Learning at MTs Al Islam Rumbia, Kampar District, Kampar Regency". The results of this study indicate that there is a significant influence on the teacher's learning communication skills on student interest in learning at MTs Al Islam Rumbo, Kampar District, Kabupaten Kampar. It is known that there is a significant positive effect on teacher learning communication skills on students' interest in learning, which is 0.796 while the Coefficient of Determination (R Square) is 0.634 and the contribution of teacher learning communication skills to student learning interest is 63.4%.

Darmadi (2016) with the title "The Relationship of Communication to Student Achievement in Sociology Subjects at SMU Negeri 5 Samarinda". Results of this study were to teacher communication variables calculated at 0.278, the value of r s and including low category (seen from the table interval coefficient in the range of 0.20 to 0.399) r count of 0.278, to find significant or not using the t-test so the result is 2.2607. It shows that the price t count is greater than the price of the t table at a significant level 0, 1, and db = N − 2 (67-2 = 65), i.e., 2.2607> 1.66177. This shows that there is a relationship between teacher verbal and non-verbal communication on student achievement in sociology subjects at SMU Negeri 5 Samarinda.

Lisna (2013) with the title "The Effect of Teacher-Student Communication on Critical Thinking Skills in Economics for SMA Taman Mulia High School Students". The results of this study can be concluded that teacher-student communication that takes place in teaching and learning activities at SMA Taman Mulia Kubu Raya

is high (good) in terms of the communication model of 68.28%, the elements in communication are 62.57% and communication effective as much as 71.14%. Critical thinking skills of students in high school economic subjects Kubu Raya Taman Mulia as a whole by 57, 17 % in the category enough. There is a positive influence in teacher-student communication on the ability to think critically in the economic subjects of SMA Taman Mulia Kubu Raya students, which is 8.2% while the rest is influenced by other factors.

From the description above, the authors are interested in concentrating more on effective communication and its relationship to student learning outcomes in physics subjects. Therefore, the authors conducted a study entitled Effect Analysis Communication Link to Learning Outcomes Physics.

METHOD

This research was conducted at SMA Al Fityan Medan, which is located on Jalan Keluarga, Neighborhood IX, Asam Kumbang, Medan Selayang District, Medan City. This research was conducted in the even semester of 2020/2021 FY 16-19 March 2021. The sample in this study was all class XI MIA at SMA Al Fityan Medan FY 2020/2021, namely 5 classes with a total of 157 students. While the students who filled out the research questionnaire were 147 students so that the data obtained and analyzed were 147 students.

The variables in this study consisted of two, namely: 1) The independent variable, namely effective communication (X). Effective communication is communication that is born from a good relationship between educators and students or students with students. There are 5 indicators of effective communication, namely (a) Respect; (b) Empathy; (c) Audible; (d) Clarity; (e) Humble. In this study, these five indicators will be developed into a questionnaire instrument to determine the level of communication effectiveness. 2) The dependent variable, namely student learning outcomes (Y). Learning outcomes in this study were taken from the test scores of students in the subjects of Physics class XI MIA SMA Al Fityan Medan.

This study uses 2 instruments, namely an effective communication questionnaire in the form of positive-negative questions with a Likert scale and

test questions to determine student learning outcomes. The instrument in the form of a questionnaire consists of 25 questions in the form of positive-negative questions with a Likert scale that has been validated by linguists. The grid of questions in the questionnaire used in the study can be seen in table 1.

Table 1. Grid of Effective Communication Questionnaire

No	Indicator	No. Items Effective Communication		Amount
		Positive	Negative	
1	Respect	1,2,3	4	4
2	Empathy	5,6,7	8.9	5
3	Audible	10,11,12,	13	4
4	Clarity	14,15 ,16,17	1 8	5
5	Humble	19,20,21 ,22	23,24 ,25	7

The number of questions listed in the questionnaire is as many as 25 statements with the index value using positive and negative questions with scale always, frequently, sometimes, and never. Student learning outcomes are obtained through test scores given by the physics study teacher for class IX MIA. There are 20 questions in the form of multiple choice.

RESULT AND DISCUSSION

Descriptive Analysis of Effective Communication (X).

Based on research data obtained from the results of questionnaires regarding effective communication, the minimum score = 56 and maximum score = 90, range of values = 34, number of classes = 8, class length = 5, lower end = 55, average score (mean) = 74, median = 73, mode = 68, variance = 58, standard deviation = 8. Based on the data generated in this study, a frequency distribution table can be arranged in Table 2.

Table 2. Effective Communication Data Frequency Distribution List

Interval Class	Lower Class	Upper Class	Frequency
55-59	54.5	59.5	3
60-64	59.5	64.5	12
65-69	64.5	69.5	36
70-74	69.5	74.5	28
75-79	74.5	79.5	31
80-84	79.5	84.5	25

85–89	84.5	89.5	11
90–94	89.5	94.5	1
Total			**147**

Based on the table above, the score grouping for the effective communication variable (X) is can be seen in Table 3.

Table 3. Description of Effective Communication Variable Tendency Test (X)

Score	Frequency	Percentage	Criteria
Value 82	24	16 %	High
66 Value < 82	102	70 %	Medium
Value < 66	21	14 %	Low

So, overall, the average value of students' answers for the effective communication variable (variable X) is 74, it can be concluded that the effective communication variable in class XI MIA students at SMA Al Fityan Medan FY 2020/2021 is categorized as medium. Where obtained 24 respondents scored in the high category (16%), 14 respondents scored in the low category (14%), and 102 people scored in the medium category (70%).

Descriptive Analysis of Student Learning Outcomes Variables (Y)

Based on this research data obtained from documentation regarding student learning outcomes in Physics subjects, the minimum score of 75 and the maximum score of 99, range of values = 24, number of classes = 9, class length = 3, the lower end of class = 74, average score means (mean) = 87, median = 87, mode = 84, variance = 42, and standard deviation = 6. Based on the data generated in this study, a frequency distribution table can be arranged in table 4.

Table 4. Frequency Distribution of Student Learning Outcomes

Interval Class	Lower Class	Upper Class	Frequency
74–76	73.5	76.5	6
77–79	76.5	79.5	17
80–82	79.5	82.5	9
83–85	82.5	85.5	34

86–88	85.5	88.5	12
89–91	88.5	91.5	23
92–94	91.5	94.5	23
95–97	94.5	97.5	18
Total			**147**

Based on the table above, the score grouping for the frequency distribution of student learning outcomes is can be seen in Table 5.

Table 5. Grouping of Student Learning Outcomes

Score	Frequency	Percentage	Criteria
Value 93	27	18.4 %	High
81 Value < 93	77	52.4 %	Medium
Value < 81	43	29.3%	Low

The average value of student learning outcomes is 87, so it can be concluded that the variable student learning outcomes in Physics class XI MIA SMA Al Fityan Medan AY 2020/2021 is categorized as medium. From the explanation above, it can be concluded that the value of student learning outcomes in Physics subjects is that 27 students get a low category (18.4%), 77 students get the medium category (52.4%), and 43 students get the high category (29.3%).

Discussion

Based on the results of the study, it is known that there is a positive and significant relationship between effective communication and student learning outcomes in Physics class XI MIA SMA Al Fityan Medan T. A 2020/2021, where the results obtained r_{xy} = 0.515 with r_{table} at level = 0.05 which is 0.162. Thus, the research hypothesis which states that there is a positive and significant relationship between effective communication and student learning outcomes is declared accepted. So, it can be concluded that effective communication factors make a positive contribution to student learning outcomes in Physics class XI MIA SMA Al Fityan Medan.

For the interpretation of the correlation coefficient of the relationship between effective communication and student learning outcomes in the Physics subject of class XI MIA SMA Al Fityan Medan for the 2020/2021 academic year confirmed using a correlation closeness table, the correlation r_{xy} = 0.515 lies in the range of values r = 0.400–0.590 it can be concluded that the correlation

interpretation is moderate. These test results show that the better communication student than student learning outcomes will be higher. This means that effective communication can have a positive impact on student learning outcomes in Physics subjects. More effective communication would be better the learning outcomes of students. This positive relationship means, the higher the score of effective communication, it will be the higher the learning outcomes achieved by students.

The coefficient of determination (KD) effective communication in this study was 26,6%. Meanwhile, 73.4% coefficient of determination (KD) that contributes to student learning outcomes is determined by other factors such as the level of student understanding of the subject matter, conduciveness of the learning atmosphere, adequate learning resources and media, support and motivation for student learning from parents and teacher.

The success or failure of the teaching and learning process cannot be seen from one factor but is influenced by many factors. One of the factors that influence the success or failure of the learning process is effective student communication. Effective communication will influence students in learning interactions and will improve student learning outcomes. In the communication pattern that takes place, the REACH principles *(Respect, Empathy, Audible, Clarity, and Humble)* must be reflected, namely respect and mutual respect, empathy, the message conveyed can be accepted by the recipient of the message, the nature of openness and humility.

In this study, it can be seen that students who have an attitude of *respect* and *empathy,* namely students who listen and pay close attention to the teacher's explanation when the teacher explains physics lessons from beginning to end and can answer seriously the questions given by the teacher, can obtain learning outcomes. better. This is by the opinion of Susanto (2015) which states that building communication with a sense of mutual respect and respect will build cooperation that produces synergy between teachers and students which has an impact on increasing student learning outcomes. In addition, this research is also in Wahyuni's opinion (2019) which states that one of the requirements for students to be able to understand the learning material provided by the teacher is the

presence of *empathy*, namely if students can convey questions or answers given to the teacher.

Likewise, students who have *audible* and *clarity* attitudes, namely students who when asking and answering questions from the teacher use a clear voice and language that is easy to understand and can tell problems related to learning difficulties in physics to the teacher and can tell how to solve problems. -About physics to his friends, get good study results. This is by the opinion of Noviyanti (2011), stating that students who plan to express opinions when discussing or answering questions in a clear and easy-to-understand voice will support students' understanding of learning materials which will have an impact on increasing student learning outcomes. This study is also by the opinion of Wahyu (2019) which states that openness *(clarity)* owned both by teachers and students were able to improve the learning process to improve student learning outcomes.

Furthermore, students who have a *humble* attitude, namely students who can explain back to their friends about the physics subject matter that has been delivered by the teacher, get good learning outcomes. This is by the opinion of Sudjana (2005) which states that the presence of students who can explain the learning material to their friends will increase the student's learning motivation because students are given broad opportunities to participate. The increase in student, motivation will affect student learning outcomes for the better.

From the explanation above, it is known that there is a positive relationship between each of the *Respect, Empathy, Audible, Clarity, and Humble* indicators with student learning outcomes. These test results demonstrate the better the communication indicator for each student the student learning outcomes will be higher. This can be interpreted that effective communication can have a positive impact on student learning outcomes in Physics class XI MIA SMA Al Fityan Medan FY 2020/2021. This is in line with research conducted by Darmadi (2016) which states that there is communication-related to student achievement in Sociology lessons at SMU Negeri 5 Samarinda. Another study that is also in line with this research is the research conducted by Shazlinda (2019), which states that there is a significant positive influence between student communication relationships on student learning outcomes in Economics class X IIS SMA Negeri 15 Bone.

CONCLUSION

Based on the results of the analysis and discussion of the research conducted, he can draw several conclusions, namely: student learning outcomes in Physics class XI MIA SMA Al Fityan Medan T.A 2020/2021 obtained an average score of 87 which is categorized as moderate, effective communication at XI SMA Al Fityan Terrain MIA T. A 2020/2021 obtain an average score of 74 is average and there is a positive and significant relationship between effective communication with the learning outcomes of students in physics class XI SMA MIA Al Fityan Medan FY 2020/2021, wherein the calculation of the correlation test r_{xy} obtained r_{count} = 0.515 while the r_{table} with a significance of 0.05 is 0.162. Thus, effective communication can have a positive impact on student learning outcomes in Physics class XI MIA SMA Al Fityan Medan FY 2020/2021. The more effective student communication, the better the learning outcomes will be.

Based on the analysis of the results and conclusion, it can put forward some suggestions. Both teachers and students should improve their communication skills, especially related to the indicators of this research, namely *Respect, Empathy, Audible, Clarity,* and *Humble.* Teachers should provide opportunities for students to ask questions related to material that is not understood. For the learning process to occur two-way communication between teachers and students. The school should always carry out regular evaluations of the competent teachers for educational attainment which is expected to be achieved.

ACKNOWLEDGMENTS

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