

Students' Scientific Communication Skills At SMAS It Mutiara Duri

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Abstract – 21st century education requires students to master several skills. Scientific communication skills are one of the skills that must be mastered to face the global era to produce quality human resources. Scientific communication skills in the form of scientific presentations to students do not meet the assessment criteria so they are still low. This study aims to determine communication skills in the form of scientific presentations of class X students at SMAS IT Mutiara. This type of research is a descriptive study. The sample used is two classes selected based on cluster sampling technique. The data collection technique used is observation. The results of this study indicate that the scientific presentation skills that are implemented well are answering questions and using better language.

Keywords – Scientific Communication Skills, Scientific Presentation.

I. INTRODUCTION

In the 21st century, there is a change in the world of education which requires a variety of skills to be mastered. Education is expected to be a place to prepare students to master various skills and become successful individuals in life. The 21st century is also known as the globalization century, which means that human life has undergone fundamental changes, especially in economic changes, which initially moved in an industrial-based economy towards an information-based economy to produce quality human resources. The characteristics of quality human resources are being able to manage and develop several skills according to the demands of the 21st century. In line with these developments, the direction of further education is faced with the demand for the importance of quality human resources who are able to compete (Nuraini, 2017; Hadisaputra, 2018; Harisanti, 2019).

The education system that leads to 21st century skills is closely related to various disciplines and aspects of life. Aspects of skills involve aspects of understanding, collaboration, creativity and besides that it also has an impact on how to work and behave. Communication skills are one of the efforts to increase moral values in facing educational challenges in the learning process so that learning for students will be more meaningful than simply memorizing and memorizing (Dewi, 2015).

The learning process of students must be relevant to developments in the 21st century. In preparing 21st century students to be more skilled and reliable in the future, learning is designed and adapted for students to be ready to face the challenges of the 21st century development, so that students must be equipped with 21st century skills or abbreviated as 4C, namely, Creativity and Innovation, Collaboration, Critical Thinking and Problem Solving and Communication (Sari and Trisnawati, 2019).

Creativity and Innovation skills familiarize students with interpreting ideas and making these ideas develop broadly with various existing views. Collaboration skills accustom students to be responsible in a group, train leadership, accept different opinions and adapt easily to the environment. Critical Thinking and Problem Solving skills familiarize students to think deductively and inductively so as to solve existing problems and create solutions. Finally, Communication skills include scientific communication skills that familiarize students with mastering, organizing and making good and correct communication relationships in writing, orally and in multimedia (Harisanti, 2019).

Scientific communication skills are trained during the learning process. Herawati (2019) in her research which aims to determine the skills profile of the 21st century students found that the communication skills of students had met more than the standard assessment category according to the indicator as much as 59%. These results are used as a reference for teachers to get a picture of carrying out the learning process in the classroom as well as to train students' scientific communication skills.

II. RESEARCH METHODS

This type of research is descriptive research. Descriptive research aims to obtain a systematic description of a group of people, an object and a class based on facts and sequences. Descriptive research was conducted to obtain data from problems in the field in the form of information in the form of sentences. The data from the study were specified to provide an explanation and description of scientific communication skills.

The study population was all students of class X IPA and the sample of the study were students of class XA₃ and XA₄ who were selected using cluster sampling technique. The research instrument was an observation sheet. Data collection techniques to measure scientific presentation skills, namely direct observation during learning. The research data is in the form of scientific communication skills in the form of scientific presentations.

III. RESULTS AND DISCUSSION

The research was conducted at SMAS IT Mutiara Duri. The aim was to determine the scientific communication skills of class X students. Scientific communication skills were measured orally in the form of scientific presentations. There are 6 scientific presentation indicators with the highest score at the first level and the lowest score at the fifth level. The results of the research can be seen in Table 1.

Table 1. Observation Results of Students' Scientific Communication Skills for Class XA₃ and XA₄ at SMA IT Mutiara Duri

Indicators of	Aspects Assessed	Number of Answers				
		T1	T2	T3	T4	T5
Answering questions	Delivering answers to questions that are easy to understand	4	5	6	14	37
Explain the problem solving design	Explain the problem systematically according to the problem solving framework	0	0	0	28	38

Respond to ideas	Develop ideas related to the problem	0	0	0	26	40
Explain the material	Based on scientific evidence and facts	0	0	0	23	43
Argument	Development and appropriateness of the presentation of arguments	0	0	0	27	39
Choice of words	Select the appropriate words	8	28	17	10	3
Total		12	33	23	128	200
Percentage		0.03%	0.1%	0.06%	0.38%	0.6%

Based on direct observation which is done to measure the scientific presentation skills of students. So, it was found that the scientific communication skills of students were still low. The cause of the first low when answering questions. Although in answering questions, students have previously been trained when the teacher motivates students at the beginning of learning. Still the skills of students in answering questions depend on their initial knowledge. In some lessons, students have not prepared prior knowledge before the class begins, so that when asked questions by the teacher students find it difficult to answer them. In addition, students must also have readiness and quick and responsive ways of thinking when getting questions from the teacher.

Second, when students explain the problem solving design. During the learning process, when the teacher gives a problem, students will begin to define, analyze and provide ideas for solutions to the problems given. However, there are still many students who still have difficulty both in defining the problem and providing ideas in the form of solutions to the problem so that the explanation presented sometimes comes out of the requested discussion. Third, namely when responding to ideas conveyed by other students, seen from the ability of students to provide responses in the form of suggestions or input to what was presented at that time. The low assessment is because students do not have long enough time to develop their ideas. One of the factors is limited time, because the learning process is carried out online.

Fourth, namely at the time of presentation and students must explain the material. The solutions submitted by students are assessed if they are based on scientific evidence and facts as their support. At the time the learning took place, the presentations made by students were still minimal based on evidence and facts. This is due to the unpreparedness of some students when making presentations, before making a presentation some of the students do not prepare material to be read. So, students cannot explain the material well in front of the class. Fifth, students' argumentation skills. Students have difficulty expressing statements with arguments for a cause-and-effect relationship. In addition, students also lack confidence in expressing their opinions. One of the contributing factors is because students are not used to and are adapting in developing their own arguments and are just starting to understand how to implement them in the learning process.

According to Dewi (2017) adaptation to a teaching is needed to produce optimal learning. Through this scientific presentation activity the teacher can train the skills of students to speak and provide good explanations with clear articulation and a volume that can be heard by other students. By frequently making presentations, students will be able to use a good language structure. Use of

good language is considered important when making scientific presentations. If you use good language, the information conveyed will be easily understood by other students.

Therefore, the low scientific presentation skills of students is due to the lack of skills of students in implementing these skills in the learning process. Scientific communication skills are considered new, especially at SMAS IT Mutiara. To get good results it is necessary to do repeated exercises so that students are used to developing scientific presentation skills. Scientific communication skills in the form of scientific presentations are also needed by students when they go directly to the community in making presentations so that they do not deviate from actual scientific principles.

IV. CONCLUSION

From the results of the research based on the observation sheet it is known that the scientific communication skills of students in class XA₃ and XA₄ at SMA IT Mutiara Duri are still low due to the lack of skill of students in implementing these skills in the learning process.

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