RelationshipbBetween Teachers' Interpersonal Communication Skills and Students' Achievement in Science at Muhammadiyah Primary Schools in Sidoarjo District

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Abstract
This study aims to determine the relationship between interpersonal communication abilities of teachers and learning achievement students. The study used quantitative research methods conducted at Muhammdiyah Primary School (PS) in Sidoarjo. The population in this study were students Muhammdiyah PS Sidoarjo district in academic year 2014/2015. The sampling technique used was 100 students. The technique of collecting data using questionnaires and documentation. Methods of data analysis using statistical analysis of the correlation of product moment. The results of this study shows that the achievement of science subjects PS Sidoarjo has an average of 81.12. and there are three students who score below 75. The results of this study also indicate that learning achievement subjects of science influenced by interpersonal communication skills of teachers. The relationship between the two variables is positive means of mutual support. The higher the interpersonal communication skills of teachers, the higher learning achievement in the subjects of science and vice versa. If the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

Keywords: Interpersonal Communication, Achievement, Science

Introduction

Science is knowledge about the natural surroundings of a general nature that derive from human activities through scientific work and continues to be refined. The essence of science in Puskur (2006: 4) has four main elements, namely attitudes, processes, products and applications. The fourth element that is characteristic of the whole real science can not be separated from one another. Learning science involves a student activity, both physical activity and mental activity, and focus on the students, based on students' everyday experiences and interests of students. Learning science in elementary school has three main objectives: to develop scientific skills, understand science concepts, and develop an attitude that is based on the values contained in the learning. Learning science is not just about and mastery of the material, but what aspects of science that needs to be taught and in what way, so that students can understand the concepts studied and logically skilled to apply these concepts to other situations that are relevant to their everyday experience. The success of science learning in achieving the four elements will also determine the quality of education.

The quality of education will greatly affect the progress of a nation. The success of a nation in improving the quality of education serves as a barometer to measure the progress of the country. Many people assume that the quality of education in Indonesia is still very low compared to other neighboring countries.

\Student Assessment (PISA) in 2009 showed that of 65 countries surveyed, to the ability of science, Indonesia ranks 60th. Indonesia scores obtained for the ability of science at 383. The score is included in the categories below the average score is equal to 501 for science capability. In addition, a survey conducted by the Trends in International Mathematics and Science Study (TIMSS) in 2011 were the result puts Indonesia was ranked 60th out of 62 countries participating to the ability of science. As for the country of Thailand was ranked 47th for science capability. Score Indonesian child's acquisition of 406 science capabilities of the average score of 500. This score is classified into the category of low benchmark, which means new students to know some basic concepts in science capability. Based on the results of the survey found that the quality of Indonesian children's science capability is still low.

Supardi (2012: 71) states that the low ratings of Indonesian students in science learning caused by the material of textbooks that are difficult to follow, instructional media less effective, less precisely the use of instructional media selected in the learning process, curriculum dense, lab inadequate , less than optimal effort the students themselves, or conventional nature where students are not much involved in the learning process so that student achievement is not increased.

The learning achievement is the acquisition of knowledge or skills developed by the subjects usually indicated by test scores or numerical value assigned by the teacher (Indonesia Department of Education, 2004: 747). In the study, a person would want to learn a proud achievement, because good learning performance is the hope of everyone, whether parents, teachers and the child. Attempts to reach the learning achievements can not be separated from the role of education managers, therefore, the educators should know the factors that affect student achievement (Sardiman, 1997: 29).

According Slameto, the factors that affect the learning achievement are: the internal factors include physical, psychological, and fatigue. External factors include family factors, school factors and community factors (Slameto, 2003: 60). According to Winkel (2004: 142), the factors that affect the learning achievement are: external factors, including the natural environment, social, culture, curriculum, programs, facilities and amenities as well as teachers. Factors from the inside, covering aspects of physiology, and psychology, among others: the conditions of the senses, interests, intelligence, motivation, talent and cognitive skills.

Many factors affect the learning achievement but in this study only focused on one of the factors that interpersonal communication skills of teachers. The teacher is a profession that is important in the development of human resources, as key to the success of education programs is in the hands of teachers. Quality education does not depend on the applicable curriculum, but also depends on the ability of teachers. Governments and communities are expecting the teacher to carry out its duties effectively and creatively, so it can produce graduates who are qualified and capable of improving human resources.
Sukmadinata believes that communication plays a decisive role in teaching (Winkel, 2004: 259). One objective of the teaching process is to motivate students to learn, so the use of appropriate communication methods will affect students' motivation.

Through communication, not only teachers interact with students or vice versa, but further than that. Expectations, desires, or ideas can be expressed through the communications made. Someone will get feedback in communication, so that the hopes, desires, or ideas will get a response. The presence of other people is not only considered as an interlocutor but more than that. The presence of other people would provide useful feedback for improving interpersonal effectiveness. Events of this kind of communication is called interpersonal communication. As said by De Vitto (1998: 23) that the communication is understood as the feedback that aims to help people improve interpersonal effectiveness.

Judging from the process, education is communication, in the sense that the process involved two components consisting of the person, that teacher and student as a communicator and communicant. In general, education planning takes place in the classroom face-to-face. Due to the relatively small group, although the communication between teachers and students in the classroom including group communication, the teaching time can turn it into interpersonal communication. Happened two-way communication or dialogue in which the students become communicants and communicators, as well as the teacher. This two-way communication is when students are responsive, presents opinions or ask questions, solicited or unsolicited (Effendi, 2005: 24).
Interpersonal communication between teachers and students will result in the relationship between both nurtured well so that the learning process in schools become more smoothly. Another result was the teacher can help students to instill positive behavior and help solve the problems faced by students.

In interpersonal communication, teachers must understand the messages conveyed by the students to the teachers because each student has a unique way of delivering a message. Therefore, in order to succeed in teaching, a teacher needs to acquire some communication skills. Effective interpersonal communication within the processes

contained believe, receive, empathy and sympathy, honesty, attitude, supportive and open attitude (Rachmat, 2003: 129). Effective interpersonal communication skills allow teachers to understand students.

Interpersonal communication will strengthen the relationship between teachers and students. If the teacher is able to understand the opinions, feelings and ideas of the students then students will be more receptive to the opinions, ideas and feelings of the teacher, so that the relationship between teachers and students be mutual respect, mutual cooperation and mutual caring. Relationships such as this, allows teachers to deliver information and instead students are able to receive that information properly.

Based on the observation of Science student learning achievement on PS Muhammadiyah Sidoarjo regency obtained information that their learning achievement in these subjects is less satisfactory. The inability of teachers in imparting knowledge and become a model in experimental activities make students less than the maximum of constructing knowledge in science. Therefore, in their delivery Science subjects, teachers should more clearly describe the practice as well as in everyday life. This course requires interpersonal communication skills that teachers optimum Science subjects more easily understood by students. In addition, delivery of material with an interesting narrative will also make students interested in the subjects of Science. Unfortunately there are many teachers who have the interpersonal communication skills are inadequate, so this impact on students' lack of understanding of the subject matter of Science. As a result, student achievement on these subjects is less satisfactory. Research will discuss how "Relationship between Interpersonal Communication Skills Teacher with Student Achievement in Science Subjects in Primary School Muhammadiyah Sidoarjo."

Research Method

This type of research is quantitative. Research conducted at PS Muhammadiyah Sidoarjo regency in the academic year 2014 / 2015.Subyek this research is the students PS Muhammadiyah Sidoarjo district, in the academic year 2014/2015. The research object is the interpersonal skills of teachers and students' science learning achievement.

Population is a generalization region consisting of objects or subjects that have a certain quantity and characteristics defined by the researchers to learn and then drawn conclusions (Sugiyono, 2008: 3). The population in this study were students PS Muhammadiyah Sidoarjo district, in the academic year 2014/2015, amounting to 100 students. The sample is part of the whole object studied and considered representative of the overall population. Sampeldalam this research is the whole population, or 100 students (Arikunto, 2005: 109). The sampling technique used is the total sample that is the entire population sampled.

Testing the validity and reliability of the measurement tool in this research is done before data collection. The formulation used in the presentation of the validity of this scale using product moment correlation with the following formula:

$$rxy = \frac{N(\sum XY) - (\sum X \sum Y)}{\sqrt{|N\sum X^2|\,|N\sum Y^2 (\sum Y)^3|}}$$

Information:
rxy: correlation coefficients between item scores and total score
N: number of subjects
ΣX: the total score of each item
ΣXY: the number of multiplications score item with a total score

In addition to valid, a measurement tool used in scientific research must also be reliable. Reliability is the extent to which the results of a measurement can be trusted (Anwar, 1999: 22). Tests on the reliability scale of teacher competence and motivation to learn this scale using Cronbach alpha reliability test for the reliability test technique is one of the reliability test technique that is currently the most reliable detection level of accuracy. Formula Cronbach alpha reliability test techniques as follows (Anwar, 1999: 22):

$$a = 2\left[1 - \frac{S_1^2 + S_2^2}{S_x^2}\right]$$

Information:
a: the reliability coefficient measuring instrument
S_1^2: variance score hemisphere 1
S_2^2: variants score 2
S_x^2: variance of test scores

Finding and Analysis
Test preconditions or assumptions made prior to correlation analysis. Test prerequisite in this study is the normality and linearity test.

Normality Test Analysis
Normality test done to see if the data from each of the variables normal distribution or not. In this study, the analytical techniques used to test data normality using the Kolmogorov-Smirnov analysis techniques. Distribution said to be normal if p> 0.05 and a summary of normality test results are as follows.

Table 1 Normality Test Results

Variable	KS	p	Information
Interpersonal communication skills of teachers (X)	0,550	0,923	Normal
The learning achievement of science subjects (Y)	0,955	0,321	Normal

Source: processed data, 2014

Based on calculations that have been done, the results are as follows:

a. Normality Test interpersonal communication skills teacher variables obtained value of p = 0.923 (p>0.05), suggesting that these variables have a normal distribution.
b. Normality test achievement variable learn science subjects obtained value of p = 0.321 (p> 0.05), this indicates that these variables have a normal distribution.

Linearity Test Analysis

The guidelines are used to test the linearity of the regression line is done by testing the significance of the value of F. The test results linearity relationship can be seen in the following table:

Table 2 Linearity Test Results

Variable	F_{count}	p	Information
Interpersonal communication skills of teachers (X) The learning achievement of science subjects (Y)	1,368	0,147	Normal

Source: processed data, 2014

Linearity test performed to determine whether the variables analyzed the correlation has a linear relationship. The relationship between the variables of interpersonal communication skills (X) and the learning achievement of science subjects (Y) has a value of p = 0.147 (p> 0.05), suggesting that the relationship between both variables is linear.

Hypothesis Test

Analysis of the data to determine the relationship between the variables of interpersonal communication skills and learning achievement in science subjects using product moment correlation with SPSS 15 for windows. The result of correlation analysis can be seen in the following table:

Table 3 Correlation Analysis Test Results

Variable	r_{xy}	p	R^2
Interpersonal communication skills of teachers (X) The learning achievement of science subjects (Y)	0,481	0,000	0,231

Source: processed data, 2014

The relationship between the variables of interpersonal communication skills and learning achievement in science subjects has a value of p = 0.000 or less than 0.05 so that there is a significant relationship between the two variables. Correlation coefficient of 0.481 or positive. Thus the higher the interpersonal communication

skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

The learning achievement of students of science subjects PS Muhammadiyah Sidoarjo district has an average of 81.12. and there are three students who score below 75. The results of this study also indicate that learning achievement of science subjects are influenced by the interpersonal communication skills of teachers. The relationship between these two variables is positive means of mutual support. The higher the interpersonal communication skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

Communication has an important role in the interaction between the participants and facilitator for this interaction means that there are sending and receiving messages in an interactive and continuous (Suparno, 2000). The existence of a good communication process then the message can be received, absorbed and internalized by the recipient. Teacher interpersonal communication plays an important role in communicating the subject matter to the students. Teachers in connection with trying to carry out this role as a source of information to master the knowledge contained in the field of study with the teacher must be able to communicate ideas, advice, material and so on.

In science lessons, the teacher is required to bring the matter before the class with interesting narratives. This is done so that the material being taught to attract students. Science teachers are required to have to do a good communication in order to communicate the nature of the material to the optimum. Science teacher's role as a communicator that provides information to their students. Professional teacher is a teacher who mastered the field of nature study broadly should try to improve communication, so that their students can be more interested in science subjects and in the end the teacher interpersonal communication is positively correlated with student achievement.

Winkel (1996) which states that one of the factors that is important in determining the learning achievements of learners, the teachers' skills in teaching. Such skills include interpersonal communication therein teachers. teacher interpersonal communication is a skill of the individual to adapt themselves to two or more individuals, through the role of the so-called transmitting (message transfer of both verbal and non-verbal) and receiving (receiving messages). Interpersonal communication at the teacher becomes effective when the message sent by the receiver as well understood at the meeting that communication is fun for teachers and other individuals. Ranayuni research results (2011) also showed that there is a relationship between interpersonal communication teacher with student achievement. Teachers with inteperpersonal good communication can overcome barriers to learning through personal approach to the students concerned.

Conclusion

Based on the analysis and discussion of research results, and the results of hypothesis testing showed that the relationship between the variables of interpersonal communication skills and learning achievement in science subjects has a value of p = 0.000 or less than 0.05 so that there is a significant relationship between the two variables. Correlation coefficient of 0.481 or higher positive thus the interpersonal communication skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower. Thus it can be concluded that there is a relationship between interpersonal communication skills of teachers with student achievement in Science Lesson in elementary school Muhammadiyah Sidoarjo. The higher the interpersonal communication skills of teachers, the higher the learning achievement in science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

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