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Relationship of Scientific Attitude and Learning Motivation on the Learning Result of Students of Classical V Level School

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Abstract

The Purpose of this research is to see the relationship between the scientific attitude toward Science and learning motivation with the result of the learning science. This research uses quantitative approach, survey methods and correlation techniques. This research is done in primary schools in the sub-region TarumajayaBekasi Regency. The research results show: (1) there is a positive correlation between the scientific attitude with the result of the learning science (2) there is a positive relationship between learning motivation with the result of the learning science (3) there is a positive relationship between the scientific attitude toward science and learning motivation together against the Results of Learning Science. Based on the results of research shows the results of learning science can be enhanced with the increase of the scientific attitude toward science and the motivation of student learning is good.

Keywords: *Scientific Attitude, The Learning Motivation, The Results of Learning Science*

Introduction

Due to the development of science and technology from day to day more rapidly, the rapid flow of globalization is getting bigger. With this phenomenon will have an impact, among others, the emergence of competition in various areas of life including education. To face this tough challenge requires quality human resources. One way to do this is through improving the quality of education.

In line with this, various efforts have been made by the government to realize a high quality education with the aim of creating high quality human resources. These efforts include library procurement, curriculum improvements, complete laboratory equipment, and improving the quality and quantity of educators. Learning activities in schools have changed, from teaching activities to activities that membelajarkan students. In other words, the school as a place of formal education is required to be able to create and design learning activities that make students learn.

In line with these circumstances, the students' learning outcomes can be increased if the learning objectives set can be achieved by the students. Conversely, if the majority of students can not achieve the purpose of learning means that learning outcomes are not achieved, learning outcomes are influenced by various factors both internal and external individuals who learn. This factor will be able to support the learning activities and can hamper the activity of learning. Here it can be seen that with a child studying science can improve the ability of thinking and improvement of science skills in solving a problem not only in the material that is taught but in every problem faced in his life. Learning outcomes are influenced by a variety of factors both internal and external individual learning. This factor will be able to support the learning activities and can hinder the learning activities. One of the internal factors of an individual who influences the science learning outcomes is a scientific attitude.

Scientific attitudes are basically the attitudes shown by scientists as they perform activities as a scientist. In other words, scientific attitude is the tendency of individuals to act or behave in solving a problem systematically through scientific steps. Scientific attitudes include curiosity, critical attitude, objective attitude, perseverance, attitudes to find, and open attitude. In addition to scientific attitude, motivation is one of the internal factors that affect student learning outcomes. Motivation to learn is a powerful impetus to perform an action in achieving the goal. Motivation comes from the word"motive" which is defined as the effort that forces someone to do something. So motivation can be interpreted as a driving force that has become active, especially active at certain times when the need to achieve a goal is felt very urgent. Motivation is a change of energy in a person characterized by the emergence

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of"Feelin" and preceded by a response to the existence of a goal. Motivation is what drives someone to do something.

Generally intrinsic motivation is stronger than extrinsic motivation. Because the motivation arises because of the need that someone has something. At present education becomes one of the most important and learning needs is one part in the education, with the existence of this learning needs then the motivation either motivation arise from within yourself or because of the stimulation from outside the self itself as an effort the fulfilment of the need for education.

Motivation has an important role in teaching and learning process for both teachers and learners. For teachers to know the motivation of learning from learners is needed in order to maintain and improve the spirit of learning learners, and teachers should understand that learners grow and develop in a variety of environments and bring varied genetic factors. This causes the motivation, both internal and external of the learners are also located in different levels - different and fluctuating. Therefore, teachers are also required to be a good motivator. So as to optimize the learning outcomes of science students, in order to spur the expected learning results. For learners the motivation to learn can foster the spirit of learning so that learners are encouraged to do learning activities.

Based on the exposure that has been described previously, researchers observed the results of natural science students learning in primary schools so low, often found some problems. Students tend to be less interested in science lessons because they are regarded as a tedious lesson and only focus on memorizing lessons and what is explained and instructed by the teacher and only to be able to answer the exam questions and repetition questions but are often incapable to translate it into the reality that exists around it. This causes the students to be less active in constructing learning knowledge to be less meaningful and only in the form of memory in the short term, this will affect the low scientific attitude, therefore needed a way to foster scientific attitude, and overcome it in order to realize the purpose of learning IPA is expected, the motivation to study science subjects is very low, such as the lack of desire in students to learn, the spirit in studying subjects IPA weak, less hard work and children quickly despair in doing decision-making activities. If the children are brought to the field, they prefer to play rather than learn science related to science lesson and do not emphasize their scientific attitude, students rarely show the attitude of honesty they prefer to cheat and take the decision of origin, learners have surrendered first in doing field work. Scientific attitudes must be nurtured from the beginning to make them true scientists. Teachers tend to pay more attention to the external factors of learners in preparing the learning activities and tend not to consider the internal factors of the students themselves. Internal factors such as scientific attitudes and learning motivation are often overlooked even by teachers in preparing learning activities. In fact, if studied more deeply scientific attitudes and learning motivations also have an influence on student learning outcomes.

Scientific attitude is the tendency of individuals to behave in solving a problem systematically through scientific steps. This scientific attitude includes honest attitude, open attitude, tolerance, optimism, brave attitude, and creative attitude. In addition to scientific attitudes, learning motivation also needs to get the attention of teachers in organizing the learning process. Motivation to learn is a good encouragement from within the individual (Intrinsic) that is, diligent in the face of tasks, not easily discouraged, showing interest and success, prefer to work together, curiosity, discipline in doing the task, confident, can defend his opinion, and not easily influenced by others, or from outside the self (extrinsic) that is the encouragement of the teacher, and the individual parents who make learners willing to learn or do something so as to achieve the desired goal. Efforts to disclose the problems or weaknesses that occur in science lessons in grade V (five) primary schools are the subjects studied include: 1) Identifying how green plants make food, 2) Re-writing how green plants make their own food, 3) Showing evidence that green plants need sunlight to make their own food, 4) Describe the dependence of humans and animals on green plants as a source of food, 5) to mention the place of plants to store food reserves, 6) to explain the parts of plants that are eaten by humans and animals, 7) which will happen when there is no greenery on earth. (Suroso 2004).

The students' learning outcomes can be improved if the defined learning objectives are achieved by the students. Conversely, if the majority of students can not achieve the purpose of learning means learning outcomes are not achieved. Basically the result of student learning is influenced by several factors such as scientific attitude toward IPA and also learning motivation factor. Attitude is a critical determinant of success that arises from within students. While the motivation to learn is an external factor that also affects the success of student learning Woolfolk, 2004).

Learning is a process by which a person undertakes to obtain a whole new change as a result of his or her own experience of interaction with others. Theory of learning result of IPA is expressed by education experts, M. SyarifSumantri (2014) the result of learning is the cognitive ability related to student in school after the students gain knowledge for a certain period or is the output (outputs) of a processing system (inputs).

From some opinions of the experts above can be synthesized learning outcomes is a change in behavior in the form of cognitive change settled on students after experiencing the learning process that leads to an understanding in the student self. Scientific attitudes in science learning are often associated with attitudes toward science. Both are interconnected and both affect each other's actions. According toHeruPurnama, scientific

attitude is an attitude formed by people who are engaged in natural science and scientific HeruuPurnamaa, 2008).

The scientific attitude that arises from the individual is caused by the stimulation of an object. The theory of scientific attitudes put forward by scientists,Burhanuddin Salam (2005) scientific attitude is a view of a person to the way of thinking in accordance with the method of science, thus causing a tendency to accept or reject the way of thinking in accordance with the scholarship.

From the understanding of scientific attitudes above it can be synthesized that a scientific attitude is an action or a way of thinking in the view of science in terms of the basic natural possessed and logic of certain knowledge In the learning process, learning motivation is needed for the success of the learning process. Because someone who has no motivation in learning, will not be possible to do learning activities. Given learning is an active activity of the student, then the teacher should place his or her students and themselves in appropriate places and limits. Teachers as good facilitators and motivators and students are conditioned to build ideas for thinking, interacting independently, without obstacles from teachers. Woolfolk (2004) motivation is an internal condition that encourages, directs, and maintains one's behavior. Sardiman (2011) argues that learning motivation is a non-intellectual psychological factor. His distinctive role in terms of growing passion, feeling happy and eager to learn.

Based on the opinion of the experts above it can be synthesized that the motivation to learn is a strong impulse contained in a person to conduct learning activities so as to achieve certain goals or achievement of optimal performance.

Research Methods

This research uses quantitative approach with survey method and correlation technique at SDN segarajaya 01, SDN segarajaya 02, SDN Samudrajaya 01, SDN Segaramakmur 01, SDN PantaiMakmur 02, SDN Pusak Rakyat 01, SDN SetiaAsih 01, SDN SetiaAsih 03, SDN SetiaAsih 05 in the district of tarumajaya district of bekasi. Samples were collected from 150 students of class V taken with random sampling technique, a questionnaire instrument using a Likert scale of 1-5. Before the questionnaire is used, then tested the validity with the product moment correlation of Pearson, and calculation of reliability with Cronbach Alpha technique while the instrument of learning results IPA with multiple choice learning test results.

Data analysis uses descriptive statistics and inferential statistics. Descriptive analysis is used to present data in the form of central size and size of the spread of each variable singly. Inferential analysis is used to test the research hypothesis by using regression test. Prior to hypothesis testing, first test the normality of estimation error using Lilieforss technique, and variance linearity test by using regression equation.

Research Result and Discussion

To answer the hypothesis of the testing of the hypothesis to find the correlation between the attitudinal variable and the motivation of the learning variable to the resultant returns by using the mechanical algorithm, the results of data processing can be seen in the following table:

Table 1 Results Calculation of Correlation Coefficient Relationship of Variables X_1 and X_2 with Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.601[a]	.361	.352	2.372
a. Predictors: (Constant), X_2, X_1				

Table 2 Recapitulation of Calculation Result of Tests Significance of Coefficients Regression of Variable Relationships X_1 and X_2 with Y

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	466.559	2	233.280	41.457	.000[b]
	Residual	827.181	147	5.627		
	Total	1293.740	149			
a. Dependent Variable: Y						
b. Predictors: (Constant), X_2, X_1						

Table 3 Recapitulation of Calculation Equations of Line Regression Results Relationship of Variables X_1 and X_2 with Y

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.392	3.540		-2.936	.004
	X1	.117	.021	.380	5.543	.000
	X2	.120	.022	.374	5.454	.000
a. Dependent Variable: Y						

Relationship of Scientific Attitude (X_1) on the Results of Science Learning (Y)

Hypotheses: This relationship is:

$H_0 : \beta_{y1} = 0$
$H_1 : \beta_{y1} \neq 0$;

Meaning:

H_0: There is no significant relationship between the scientific attitude towards the sciencelearning outcomes (Y).
H_1: There is a significant Relation of Scientific Attitudes to Learning Outcomes (Y).

From hypothesis testing obtained that valueSig = 0,000 and tcount = 5,543 while t_{tabel} = 1.98. Since the Sig value <0.05 and $t_{count}>t_{table}$ then H_0 is rejected which means there is a relationship significant independent variables X_1 (Scientific Attitude) to the bound variables Y (Science Results Learning).

While Learning Outcomes is a change in behavior in the form of cognitive change settled on students after experiencing the learning process on science subjects so as to generate an understanding in the learners, gain knowledge, skills, and the cultivation of mental attitude or values. The achievement means to produce, the result of studying Natural Science (IPA) in the ability possessed by learners after experiencing the process of learning of Natural Science (IPA).

With high Scientific Attitudes possessed by a learner then the student will try as much as possible to achieve the highest achievement, including in achieving learning achievement. He will try to follow every learning process well, always trying to improve the knowledge, understanding, skills, and the value of his attitude in learning that eventually learning achievement will increase.

From the authoritative and theoretical information the researcher concludes that Scientific Attitudes have a positive and significant relationship to the Results of Science Learning.

2. Relationship Motivation Learning (X_2) on the Results Learning Science (Y) Hypotheses: This relationship is:

$H_0 : \beta_{y2} = 0$
$H_1 : \beta_{y2} \neq 0$;

Meaning:

H_0: there is no significant relationship Motivation Learning to the Results of Science (Y).
H_1: There is a significant relationship Motivation Learning to Learning Outcomes (Y).

To prove the hypothesis by paying attention to the value / number indicated in column t or column Sig for Learning Motivation row (Variable X_2) in Table 4.9 According to the existing provision, the regression significant criterion is "if thitung>ttable then H0 is rejected" or "if Sig < 0 ,05 then H_0 is rejected ", this means that there is a significant relationship independent variable X_2 on the dependent variable Y. Sig S is the number listed in the Sig column for the Learning Motivation row (Variable X_2) in Table 4.9. The value of tcount is the number shown in column t for the Learning Motivation row (Variable X_2) in Table 4.9 While the t_{table} value is the value of the t distribution table for the real level of 5% with the degree of trust (df = n - 2) = 148 where n is the number of respondents.

From Table 4.9 it can be seen that the value of Sig = 0,000 and tc = 5.454 whereas t_{table} = 1.98 Since the value of Sig <0.05 and $t_{count}>t_{tabel}$ then H_0 is rejected which means there is a significant relationship of independent variable X_2 (Learning Motivation) to the dependent variable Y (Result Learning Science).

With a high motivation to learn then learners will tend to follow the teaching and learning activities carefully, the spirit of learning will grow well, and pursue the science of Learning Outcomes. If perseverance, motivation and high learning spirit then undoubtedly high learning achievement can be achieved. This is in accordance with the opinion of Atta and Jamil that learning motivation has a very important role in improving student achievement.

From the results of correlation testing, regression testing and by looking at the line model it can be concluded that there is a significant relationship independent variables X_2 (Motivation Learning) to the dependent variable Y (Science Results Learning).

With a high motivation to learn then learners will tend to follow the teaching and learning activities carefully, the spirit of learning will grow well, and pursue the science of Learning Outcomes. If perseverance, motivation and high learning spirit then undoubtedly high learning achievement can be achieved. This is in accordance with the opinion of Atta and Jamil that learning motivation has a very important role in improving student achievement.

From the results of correlation testing, regression testing and by looking at the line model it can be concluded that there is a significant relationship independent variables X_2 (Motivation Learning) to the dependent variable Y (Science Results Learning).

3. Relationship of Scientific Attitudes (X_1) and Learning Motivation (X_2) collectively to the Results of Learning Science (Y)

From the description of data after correlation analysis obtained correlation coefficient of 0.601 and coefficientermetation of 0.361 (36%), after testing with SPSS program proved that the correlation coefficient is significant. This means that there is a Relationship of Scientific Attitudes (X_1) and Learning Motivation (X_2) collectively to the Results of Science Learning (Y). While from the analysis we get the equation of regression line = -10,392 + 0,117 X_1 + 0,120X_2. Constant value = -10,392 shows that with Lowest Scientific Attitudes and Learning Motivation is difficult for students to achieve good learning achievement, while the value of regression coefficient of 0.117 and 0.120 indicates a positive relationship of Scientific Attitudes (X_1) and Learning Motivation (X_2) simultaneously to the Science Learning Outcomes (Y), every increase of one student score on the Scientific Attitude will have an increase in learning outcomes of0.117, and every increase of one value of Learning Motivation there will be an increase in Learning Outcome of 0.210.

After testing the linearity line regression using SPSS program obtained that the regression line is linear. From the significant test of regression coefficient which is also

done by using SPSS program, it is obtained that the regression coefficient is significant, which means that there is a positive correlation of Scientific Attitude (X_1) and Learning Motivation (X_2) together to the Science Learning Outcomes (Y).

Scientific Attitudes are always concerned with an object with feelings of likes or dislikes, pleasure or displeasure, positive negatives, useful or not for itself, containing cognitive, affective, and conative, tend to reject an object based on research on the object, and one's tendency in behaving because of a stimulus or a stimulus. the level of scientific attitudes possessed by a learner can affect student learning outcomes which in this case is the result of learning science, determining how individuals react to situations and determine what the individual searches for in life. Lack of positive attitude of learners in learning can lead to low learning outcomes learners and scientific attitude is very supportive learning activities learners in the positive direction.

While Learning Outcomes are behavioral changes in the form of cognitive change settled in students after experiencing the learning process on science subjects so as to generate an understanding in the students themselves, gain knowledge, skills, and the cultivation of mental attitude or values. This achievement means that the result of learning of Natural Science (IPA) in the ability possessed by learners after experiencing the learning process of Natural Science (IPA).

Learning Motivation is a strong impulse found in a person to perform learning activities so as to achieve a particular goal or achieve optimal performance. Strong learning motivation will affect the intensity of the study effort is diligent and not quickly desperate in mengahadapi tasks that will affect the achievement of learning achieved. Someone will succeed in learning, if in itself a strong motivation will make students able to work hard to achieve something that its purpose, and the motivation comes from the encouragement of the need. With a high motivation to learn then learners will tend to follow the teaching and learning activities carefully, the spirit of learning will grow well, and pursue the science of Learning Outcomes. If diligence is high learning spirit then undoubtedly high learning achievement can be achieved.

From the quantitative and theoretical information the researcher concludes that Scientific Attitudes and Learning Motivation have a significant correlation to the Results of Science Learning.

Conclusion

Based on the theoretical framework and research findings discussed in previous chapters, there are three conclusions in this study:

1. The better the application of the scientific attitude of the learners, the better the learning outcomes of the learners. And conversely the lower the application of scientific attitudes of learners will be the lower the learning outcomes of learners.
2. The higher the learners' learning mathematics will be the higher the learning outcomes of learners. Conversely, the lower the motivation to learn it will be the lower the learning outcomes learners IPA.
3. Collectively shows that the better the scientific attitude of learners, the motivation to learn the better the learning outcomes of learners IPA. And conversely, the lower the application of scientific attitude, and the application of learning motivation, then negatively affect the learning outcomes of learners IPA.

References

Anita Woolfolk, Educational Psycology, Boston: Person Education, Inc.2004

Atta, M.A. and A. Jamil, Effects of Motivation And Parental Influence On The Educational Attainments Of Students at secondary. Savap International, ISSN-L: 2223-9553, ISSN: 2223-9944, Vol. 2, No. 3, May 2012, www.savap.org.pk, accessed at that time. Burhanuddin Salam. Introduction to Philosophy. Jakarta: Earth Script, 2005

Djamarah, S.B., Psychology of Learning. Jakarta: Raja GrafindoPersada, 2011 HeruPurnama. Natural Science.Jakarta: PT. RinekaCipta. 2008 MohamadSyarifSumantri, RiaPuspita, Mathematics and Environmental Relationship

Relationship to Learning Outcomes of Mt VII Students.Journal of Basic Education.(Online), Volume 2, Number 2. (Https://Scholar.google.com/5440-18114-1-PB, accessed in months). 2014

Sardiman, A.M., Interaction and Motivation to Teach. Jakarta: Rajawali Press, 2012 Suroso, M.L, Munarprianto R, Diongsia D, KomarudinTajuddin, Modern Science For Grade V Elementary School (Jakarta, 2004), p.IV-V.