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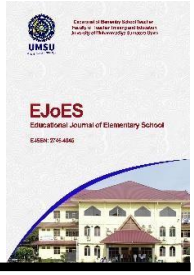

THE INFLUENCE OF THE SCIENTIFIC APPROACH ON STUDENTS' LEARNING CREATIVITY IN SCIENCE LEARNING MATERIALS PROPERTIES OF LIGHT CLASS IV STATE PRIMARY SCHOOL 107402 SAENTIS PERCUT SEI TUAN DISTRICT

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ABSTRCT

The aim of the research carried out by this author is todetermine the influence of the Scientific Approach on Student Learning Creativity in Science Learning Material on the Properties of Light for Class IV SD Negeri 107402 Saentis, Percut Sei Tuan District. This research was conducted at a public elementary school107402 Saentis, Percut Sei Tuan District. The sample used in this research was fourth grade students at state elementary schools107402 Saentis, Percut Sei Tuan DistrictMedan has a class of 50 students. From the research results, data analysis and discussions in the previous chapters, it can be concluded thatThe students' scientific approach to science learning material on the properties of light for Class IV SD Negeri 107402 Saentis, Percut Sei Tuan District is quite good. Students are used to using science in learning activities. Student Learning Creativity in Science Learning Material on the Properties of Light for Class IV SD Negeri 107402 Saentis, Percut Sei Tuan District has increased. This can be seen from the increasingly creative nature of students in studying science regarding the properties of light.There is a positive and significant influence of the scientific approach variable (X) on the student learning creativity variable (Y), meaning that there is a direct influence or relationship between the scientific approach on student learning creativity in real terms. So, schools must pay attention to the implications between the scientific approach variable on creativity student learning.

Keyword

Instilling scout discipline and extracurricular character values

1. INTRODUCTION

"Learning approaches are activities chosen by teachers in the learning process which can provide convenience or facilities to students in the process of achieving predetermined learning goals" (Suryosubroto, 2017: 195). One of the learning approaches applied in the implementation of the 2013 curriculum is the scientific approach which is also known as the scientific approach.

According to Hosnan (2014: 43) the scientific approach is a learning process which aims to enable students to actively learn concepts, laws or principles through several stages, namely: observing, asking, reasoning, associating and communicating these concepts, laws or principles, with the aim of providing understanding to students in recognizing and understanding the various materials they study; in addition to improving intellectual abilities, especially students' high-level thinking abilities. Thus, teachers are strongly encouraged to apply a scientific approach in the classroom learning process.

According to Mulyasa (2013: 37) The application of a scientific approach in learning involves process skills, such as: observing, classifying, measuring, predicting, explaining

and concluding. In implementing this approach, professional teachers are needed. Professional teachers are educators who become figures, role models and identification for students and their environment. Therefore, teachers should have certain personal quality standards which include: responsibility, authority, independence and discipline.

Learning with a scientific approach is said to be successful if the teacher uses the steps of a scientific approach properly and correctly. For this reason, teachers are required to have talent and be creative in increasing student creativity in teaching and learning activities (KBM); especially science learning so that students do not feel bored and tired of learning. Creativity in question is everything done by teachers and students that can produce a product that is effective and relevant to the learning objectives to be achieved.

Natural Sciences (IPA) is a collection of knowledge that is arranged in a systematic and guided manner which is carried out through scientific methods, including: observation and experimentation and demands scientific attitudes such as curiosity, openness, honesty and so on. Thus, IPA can also be defined as a collection naturally structured knowledge.

The development of science is not only marked by the presence of facts, but is also marked by the existence of scientific methods and scientific attitudes. Science teaching and learning activities can obtain maximum results when they involve students' active role in understanding the concepts and material being taught. Therefore, the learning process should require an interesting and varied approach or delivery method. Teachers have an important role in using various effective approaches and methods, so that any material they convey is easy for students to understand and understand well and is relevant.

Creativity can be defined as a person's ability to create a new product and is related to the ability to create new combinations or see new relationships between elements, data or things that previously existed. In the creativity process, a person must have great self-confidence and be able to plan and realize ideas, thoughts or something new in order to achieve the desired goals. Creativity is one of the potentials that children have that needs to be developed from an early age. Every child has creative talents, and from an educational perspective, creative talents can be developed and cultivated in every domain and scope of the educational process itself. In other words, educational efforts are needed that can develop children's creativity, including in the science learning process, especially material on the properties of light.

One example of creativity that teachers can develop in the nature of light material is; students are able to develop and produce new products, such as: loops or periscopes that students design according to their abilities. Based on these activities, students can learn independently, creatively and interactively and are able to understand the concept of the properties of light quickly and precisely through direct experience in learning creativity.

According to Hosnan (2014: 43), the scientific approach is a learning process that is designed in such a way that students actively construct problems, propose or formulate hypotheses, collect data using various techniques, analyze data, draw conclusions and communicate the concepts, laws or principles that have been discovered. ".

According to Daryanto (2014: 51) the scientific approach is a learning process designed in such a way that students actively construct concepts, laws or principles through the stages of observing (to identify or find problems), formulating problems, asking questions or proposing hypotheses, collecting data. using various techniques, analyzing data, drawing conclusions and communicating the concepts, laws or principles found.

According to Imas Kurniasih (2014: 29) The scientific approach is a learning process that is designed in such a way that students actively construct learning concepts through the stages of observing (to identify problems or formulate problems), formulating problems, proposing or formulating hypotheses, collecting data by various techniques, analyzing data, drawing conclusions and communicating concepts.

Based on the opinions of the experts above regarding the meaning of Student Perception regarding the Scientific Approach, it can be concluded that Perception is the Student's view or response to objects seen, heard and felt by students in participating in learning activities using the Scientific Approach through five steps, namely: Observing, asking, gathering information, associating, and communicating.

According to Martini (2016: 57) Creativity is a complex field of study, which gives rise to various different views. The definition of creativity is closely related to the definitional emphasis and depends on the theoretical basis on which it is based. Creativity is an expression

that is familiar in everyday life, especially for school children who are always trying to create something according to their fantasies.

Utami Munandar in M. Ali and M. Asrori (2015: 41) defines creativity as the ability to reflect fluency, flexibility and originality in thinking as well as the ability to collaborate on ideas. Meanwhile, Torrace also stated that creativity is the process of an individual's ability to understand gaps or obstacles in his life, create new hypotheses and communicate the results, and wherever possible modify and test the hypotheses formulated.

Getzel and Jackson in Slameto (2014: 148) also argue that discussions about creativity are often connected with intelligence. They argue that those with a high level of intelligence do not necessarily have a high level of creativity, likewise students who have a high level of creativity do not necessarily have a high level of intelligence. high too.

According to Hamalik (2013: 4) Learning is a process of changing behavior through interaction between individuals and the environment. The process in this case is a sequence of activities that take place continuously, gradually, in turns, in balance, and integrated, which as a whole colors and gives characteristics to teaching and learning.

Learning according to Nasution in Hamzah B. Uno (2015: 141) is an activity that produces changes in the individual who is learning, both actual and potential. Meanwhile, according to Slameto, learning is a process of change within a person, in behavior as a result or result of interaction with the environment according to needs.

According to Nana Sudjana (2016: 208) learning is a process characterized by changes in a person, including their knowledge, understanding, attitudes and behavior, skills, abilities and capabilities, reaction power and receptive power.

According to Dimyanti (2012: 18) Learning is a complex internal process, which is involved in the internal process which includes affective elements, the affective element is related to attitudes, values, interest, appreciation and adjustments to social feelings. According to Sadirman (2014: 138), several principles in learning are: first, learning means searching for meaning. Meaning is created by students from what they see, hear, feel and experience. Second, meaning construction, is a continuous process. Third, learning is not an activity of collecting facts, but is the development of thinking by making new understandings. According to Learning, learning is not the result of development, but development itself. Fourth, the results are influenced by the learning subject's experience with the physical world and its environment. Fifth, a person's learning outcomes depend on what students know, goals and motivation influence the process of interaction with the material being studied.

From the opinion above, it can be concluded that learning creativity is the ability to find new ways to solve problems by collaborating on ideas using imagination, fantasy or imagination and being able to test the truth of these ideas. Learning creativity is the ability to find ways to solve problems faced by students in learning situations that are based on student behavior in order to face changes that cannot be avoided in the development of the student's learning process

2. Research Methods

In the science learning process, especially regarding the properties of light, teachers can use a scientific approach as a tool in the learning process. Therefore, in the application of a scientific approach, it is necessary to carry out experimental activities so that learning is more meaningful. Experimental learning is often carried out in laboratories and in them cannot be separated from the completeness of the equipment, both those found in the laboratory and simple tools that are assembled and made. by teachers or students themselves.

With these activities, students will carry out their learning process actively, being creative in their absorption of learning material will be higher. Experimental activities allow students to develop scientific skills. Through experiments carried out directly by students and carrying out an active, creative learning process so that students can develop various psychomotor skills which basically already exist within each student.

As an example of material on the properties of light, the teacher asks students to go to the laboratory or in the classroom using tools brought from home such as: mirrors, flashlights and so on. Then the teacher and students try directly what is included in the properties of light and how the properties of light occur. Therefore, students are more active and creative in following all the learning stages.

With the help of a scientific approach, students are expected to be able to learn more actively and creatively and be able to

understand each material well, especially material that is closely related to their daily lives. The application of material on the properties of light using a scientific approach aims to help students develop their talents. and skills and increase personal creativity. In other words, the scientific approach here is a learning process that is able to accommodate, inspire, strengthen, and provide a basis for scientific learning methods that are student-centered. 58 A scientific approach that is student-centered (student approach) will produce student products that "know what " and "what can you do". Students' abilities will be honed a lot, in this case related to the concept of the properties of light. In particular, increasing students' creativity in making works of "light refraction media and simple periscopes".

This research was conducted at a public elementary school107402 Saentis, Percut Sei Tuan District. The population used in this research was fourth grade students at state elementary schools107402 Saentis, Percut Sei Tuan DistrictMedan has a class of 50 students. The author chose the sample using a saturated sampling technique because the population was relatively small. So the number of samples used by the researcher was as many as 50 class IV students at SD Negeri 107402 Saentis, Percut Sei Tuan District, Medan

3. Results and Discussion

This research was conducted at a public elementary school107402 Saentis, Percut Sei Tuan District. The population used in this research was fourth grade students at state elementary schools107402 Saentis, Percut Sei Tuan DistrictMedan has a class of 50 students. The author chose the sample using a saturated sampling technique because the population was relatively small. So the number of samples used by the researcher was as many as 50 class IV students at SD Negeri 107402 Saentis, Percut Sei Tuan District.

The results of the data normality test with Kolmogorov-Smirnov can be concluded by comparing the probability number values or Asymp. Sig (2-tailed) with a significance level of 0.05 or 5% with decision making if the significance value is less than 0.05 or 5% then the data distribution is not normal. And if the significance value is greater than 0.05 or 5% then the data distribution is normal. Based on the table above, it can be concluded that the data is normally distributed because the Asymp value. Sig (2-tailed) 0.08 is greater than 0.05.

1. Normality Test

Kolmogorov-Smirnov test

One-Sample Kolmogorov-Smirnov Test

		X Scientific Approach	Y Student Learning Creativity
N		25	25
Normal Parametersa	Mean	69,8000	82,6000
	Std. Deviation	9.62635	8.67468
Most Extreme Differences	Absolute	,172	.138
	Positive	,172	.138
	Negative	-.109	-.124
Kolmogorov-Smirnov Z		,859	,689
Asymp. Sig. (2-tailed)		,452	,729
a. Test distribution is Normal.			

The results of the data normality test with Kolmogorov-Smirnov can be concluded by comparing the probability number values or Asymp. Sig (2-tailed) with a significance level of 0.05 or 5% with decision making if the significance value is less than 0.05 or 5% then the data distribution is not normal. And if the significance value is greater than 0.05 or 5% then the data distribution is normal. Based on the table above, it can be concluded that the data is normally distributed because the Asymp value. Sig (2-tailed) 0.08 is greater than 0.05.

2. Homogeneity Test

Homogeneity Test

Test of Homogeneity of Variances

X Scientific Approach

Levene Statistics	df1	df2	Sig.
2,860	4	16	,058

The homogeneity test is used to determine whether the data from the research results have the same variance value or not. It is said to have the same/not different (homogeneous) variant value if the significance level is ≥ 0.05 and if the significance level is <0.05 then the data is concluded to not have the same/different (not homogeneous) variant value. From the results of the homogeneity test calculation it is known that the value The significance is 0.058. Because the value obtained from the homogeneity test has a significance level of ≥ 0.05, the data has the same/not different (homogeneous) variance value.

a. t test

The t statistical test basically aims to explain how much influence an independent variable individually has in explaining the dependent variable. By using the SPSS 16.0 program.

t test Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22,561	3,946		5,718	,000
	X Scientific Approach	,860	,056	,955	15,355	,000

a. Dependent Variable: Y Student Learning Creativity

Source: Data processed using SPSS (2022)

From the data above and SPSS processing it can be seen:

tcount = 15.355

ttable = 1.677

Decision making criteria (Azuar Juliandi & Irfan, 2013, p. 39):

a) If the tcount>ttable value, then Hodi is rejected and Had is accepted so that the scientific approach variable has an influence on student learning creativity.
b) If the tcount < ttable, then Ho is accepted and Hadito is rejected so that the scientific approach variable has no effect on student learning creativity.

Based on the partial test results of the influence of the scientific approach on student learning creativity, tcount (15.355) > ttable (1.677), with a significance level of 0.000 < 0.05. The value 15.355 is greater than 1.677, indicating that tcount is greater than ttable. From these results it can be concluded that Ha is accepted (Ho is rejected). This shows that there is a significant influence between the scientific approach on student learning creativity.

Discussion

The results of the data normality test with Kolmogorov-Smirnov can be concluded by comparing the probability number values or Asymp. Sig (2-tailed) with a significance level of 0.05 or 5% with decision making if the significance value is less than 0.05 or 5% then the data distribution is not normal. And if the significance value is greater than 0.05 or 5% then the data distribution is normal. Based on the table above, it can be concluded that the data is normally distributed because the Asymp value. Sig (2-tailed) 0.08 is greater than 0.05.

The homogeneity test is used to determine whether the data from the research results have the same variance value or not. It is said to have the same/not different (homogeneous) variant value if the significance level is ≥ 0.05 and if the significance level is <0.05 then the data is concluded to not have the same/different (not homogeneous) variant value. From the results of the homogeneity test calculation it is known that the value The significance is 0.058. Because the value obtained from the homogeneity test has a significance

level of ≥ 0.05, the data has the same/not different (homogeneous) variance value.

Based on the partial test results of the influence of the scientific approach on student learning creativity, tcount (15.355) > ttable (1.677), with a significance level of 0.000 < 0.05. The value 15.355 is greater than 1.677 indicating that tcount is greater than ttable. From these results it can be concluded that Ha is accepted (Ho is rejected). This shows that there is a significant influence between the scientific approach on student learning creativity.

Thus, it can be concluded that there is a positive and significant influence of the scientific approach variable (X) on the student learning creativity variable (Y), meaning that there is a direct influence or relationship between the scientific approach and real student learning creativity. So, schools must pay attention to the implications between the approach variables scientific research on student learning creativity.

4. CONCLUSION

From the research results, data analysis and discussions in the previous chapters, it can be concluded thatThe students' scientific approach to science learning material on the properties of light for Class IV SD Negeri 107402 Saentis, Percut Sei Tuan District is quite good. Students are used to using science in learning activities.

Student learning creativity in learning science material on the properties of light for class IV SD Negeri 107402 Saentis, Percut Sei Tuan District has increased. This can be seen from the increasingly creative nature of students in studying science regarding the properties of light.There is a positive and significant influence of the scientific approach variable (X) on the student learning creativity variable (Y), meaning that there is a direct influence or relationship between the scientific approach on student learning creativity in real terms. So, schools must pay attention to the implications between the scientific approach variable on creativity student learning.

From the results of the research, data analysis, discussion and conclusions that have been drawn, the following suggestions can be put forward:

1. The school needs to improve the scientific approach so that student learning creativity increases.
2. Schools need to increase student creativity by developing interesting learning models using a scientific approach.

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