

The Effect of Interaction Between Students on Learning Outcomes in Grade 5 Elementary School Students

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Abstract: Social interaction between students is one of the external factors that can affect student learning outcomes. In the process of teaching and learning there needs to be an interaction between students that takes place in a communicative, fun, and atmosphere of familiarity between students. Harmonious interactions will give rise to a strong sense of unity. Students will facilitate various ways of view and understanding of the material with other students so that the exchange of ideas and ideas can expand and sharpen the student's ability to understand the material. Thus, students' learning outcomes will also increase. This research aims to 1) obtain an overview of interactions between students in the classroom; 2) obtain an overview of students' sciences learning outcomes; 3) Know how much influence interaction between students on students' science learning outcomes. This research is a descriptive study using a quantitative approach. Data collection instruments using questionnaires. The research sample in this study amounted to 37 students from a population of 37 students in the 4th grade of Sumberagung Elementary School. From the results of data analysis, the relationship between the two variables is positive and significant. Overview of interactions between students in good criteria. While the general picture of the learning outcomes of 4th-grade students is high. Based on the criteria for interpreting correlation coefficients, the relationship between the two variables falls into a strong category.

Keywords: Cooperation, Interaction between students, Learning outcomes, Learning outcomes factors, Unity.

Introduction

Students' activeness is the core of learning activities in the science learning process. Learning activities can be reflected in students' activeness in reading independently, linking new concepts by discussing and using new terms, concepts, and principles from various experiments, and determined observations. So, with good cooperation from each component, it is very likely that science competence can be achieved. In education, collaboration skills are essential things that must be developed in learning, both inside and outside school. Cooperation can accelerate learning goals because, basically, a learning community always has better results than several individuals who study individually (Gillies 2003).

In learning science in the classroom, it is necessary to cultivate critical thinking, working,

behaving scientifically, and communicating as critical aspects of life skills. Following the current curriculum, namely the 2013 Curriculum, which emphasizes the ability of teachers to implement an authentic, challenging, and meaningful learning process for students so that students' potential can develop following the expectations of national education goals (Kurniaman and Noviana 2017).

With the existence of a process of interaction between students in schools, students are expected to be confident, communicate effectively, respect each other, and achieve good learning outcomes, especially in natural science lessons (Hurst, Wallace, and Nixon 2013). However, the reality on the ground, the researchers observed based on interviews with teachers at Sumberagung Elementary School, Yogyakarta. Interaction between students cannot be carried out properly because of online learning.

According to the teacher, the interaction between students decreased during online learning. Students became less confident in expressing opinions, did not communicate and socialize with fellow students, and did not respect other students. No communication between students causes the lack of learning outcomes in schools. From the above perspective, the researcher strongly suspects that this happens because students are weak in interacting in the school environment, causing a rigid and unpleasant learning atmosphere. The rigid learning atmosphere can affect the learning process so that it affects the effectiveness of the learning process so that it can impact student learning outcomes.

According to research, peers have an essential role as a source of emotional encouragement for students because by interacting with peers, children can increase emotional development. So if children can get along with peers positively, it will affect their intelligence and learning outcomes.

Learning outcomes are influenced by external aspects, including internal aspects, physiological aspects, which are physical conditions that exist within the individual and psychological aspects. External and internal aspects of learning can affect a person's learning situation. Influence can be positive or negative. It all depends on the circumstances of each person. Many provisions might improve student learning achievement, but this research will discuss the requirements for interaction between students on student learning outcomes in schools. This interaction between students is meaningful because the interaction between students in the school area is one of the learning provisions that considerably influences student learning outcomes.

Fitri's research (2021) shows an influence of peer interaction on student achievement IV SD Inpres 17 Bajoe, Tanete Riattang Timur District, Bone Regency for the 2020/2021 academic year (Cholifah, Purwanti, and Laili 2016). In addition, Novalinda's research (2021) states that peer interaction affects learning outcomes, and there is a positive relationship between student peer interactions at school and learning outcomes (Novalinda, Kantun, and Widodo 2018).

Based on the description above, the researchers are interested in researching with the title "The Effect of Peer Interaction on Learning Outcomes of Grade 5 Elementary School Students".

Materials and Methods

Study area

The approach used in this research is quantitative. The type of research used in this research is correlation research. This study aimed to determine the effect of student interaction at school with learning outcomes in Grade 5 of Sumberagung Elementary School, Yogyakarta. Data collection in this study took place in January 2020.

Procedures

This study uses a closed questionnaire presented by putting a tick (✓) in the column provided with four alternative answer choices, namely strongly agree, agree, disagree, and strongly disagree, for the score of each item.

Data analysis

The data analysis technique is the method used to prove the hypothesis. In this study, the data analysis technique used is inferential analysis. Inferential analysis used a simple regression technique. Inferential statistics are used to test the research hypothesis of the relationship between variables X and Y. Inferential statistics is a statistical technique used to analyze sample data. The results are applied to the population.

Simple regression determines the linear relationship between one independent variable (X) and the dependent variable (Y). One of the conditions for using the formula is that the data must be expected. In line with this, some statisticians use the central limit theorem, which states that data with more than 30 numbers ($n > 30$) can be assumed to be normally distributed. Based on this statement, the number of samples in this study has met the requirements to be used in simple regression testing. A simple regression test was performed using SPSS 24 for Windows.

Making decisions in regression analysis is by looking at the significance value (Sig.) in the SPSS output results. If the significance value (Sig.) is less than the probability of 0.05, it means that there is an effect of interaction between students (X) on the value of student learning outcomes (Y). Suppose the significance value (Sig.) is greater than the probability of 0.05. In that case, there is no effect of interaction between students (X) on the value of student learning outcomes (Y).

Researchers are also interested in knowing how much influence the interaction between students has on student learning outcomes. To determine the magnitude of this effect, the researcher conducted a simple regression test using SPSS 24 for Window and analyzed the magnitude of R Square. The amount of R Square is found in the determination test. The amount in R Square will then be matched into a percentage of the magnitude of the effect of interaction between students on learning outcomes.

RESULTS AND DISCUSSION

This research was conducted in Sumberagung elementary school Yogyakarta. This study aims to determine the interaction between students and

student learning outcomes by giving a questionnaire consisting of 32 statements and grade 5 students as research subjects. The data obtained were then analyzed with the value of student learning outcomes derived from the science report cards of grade 5 students of Sumberagung elementary school.

T-Score

Researchers want to know whether the interaction between students significantly affects learning outcomes. For this reason, the researcher makes a hypothesis as follows.

Hypothesis:

- Ha: interactions between students affect student learning outcomes
- Ho: interactions between students do not significantly affect student learning outcomes

The researcher tested the significance of the coefficient of influence that could be calculated using the t-test using SPSS 24 for Windows to prove this hypothesis. From the test results, the data is presented in table 1.

Table 1. T-Score.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	51.396	11.823		4.347	0.000
	Interaction between students	0.267	0.121	0.350	2.209	0.034

a. Dependent Variable: Learning Outcomes

Table coefficients obtained interaction between variables and student learning outcomes sig value of 0.034, compared to the probability of 0.05, turned out to be probability values greater than significant values. Thus, the interaction between students affects students' learning outcomes. So that the alternative hypothesis (Ha) is accepted while the hypothesis (Ho) is rejected. Thus, it can be said that there is a significant effect between

interactions between students at school and science learning outcomes in Sumberagung Yogyakarta Elementary School.

Coefficient of Determination

Based on the results of simple regression calculations using SPSS 24 for Windows, the data is presented in table 2.

Table 1. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.350	0.122	0.097	9.206

a. Predictors: (Constant), students interaction

Based on the results of a simple regression test carried out with the help of SPSS 24 for Windows, The table describes the correlation value (R) of 0.350. From the output obtained, the coefficient of determination (R Square) of 0.122 or equal to 12.2%, which contains the understanding that the influence of free variables (interaction between students) on bound variables (learning outcomes) is substantial. The R square number or coefficient of determination of 0.122 means that learning outcomes can be explained by the interaction between students by 12.2%. Other variables outside the study describe the remaining 87.8%.

Discussion

Based on the results of the analysis described previously, it shows that there is an effect of interaction between students at school with learning outcomes of natural science. By testing the research hypothesis with inferential statistics, in this case, a simple regression test, there is an R Square value of 0.122 with a low category level.

This research shows that there is a significant effect, so it can be said that good student interactions most likely influence students who have good learning outcomes. A good interaction variable between students will provide good learning outcomes because there is a significant influence on the relationship between the two variables. Students who are active or happy in dealing with social groups have experience and knowledge to be useful when the educational process takes place. Students are active in responding and studying many things to help in mastering problems or dialogue when the educational process takes place. It can also contribute to in-class dialogue and in working on group assignments so that teachers judge them to be active in the learning process. Students who are active in learning activities can certainly absorb more material and improve learning outcomes. This is in line with Esminto (2016) opinion that

group work can encourage students to encourage and help each other solve the problems given by the teacher (Esminto et al. 2016).

Table coefficients obtained interaction between variables and student learning outcomes sig value of 0.034, compared to the probability of 0.05, turned out to be probability values greater than significant values. Thus, the interaction between students affects students' learning outcomes. Thus, it can be said that there is a significant effect between interactions between students at school and science learning outcomes in Sumberagung Yogyakarta Elementary School. Peers are an important source of emotional encouragement for adolescents because through interaction with peers, and children can enhance their emotional development. Allowing children to interact actively with their peers will affect their emotional intelligence. Emotional intelligence is critical to improving academic achievement. Children with high emotional intelligence will not easily give up when facing challenges in the learning process at school. Prioritizing peers who have academic achievements, children will be motivated to study harder to get the same grades as their peers.

Science education in elementary schools is expected to be a vehicle for students to learn about themselves and the natural environment. Science education in elementary schools emphasizes providing direct learning experiences. The direct experience builds further student understanding (Wrenn and Wrenn 2009).

Learning science is a process of interaction and cooperation between students and educators, learning resources, learning media, and learning environment to achieve predetermined science competencies (Aditya, Sudrajat, and Sumantri 2021). So, with good cooperation from each component, it is very likely that science competence can be achieved. In education, collaboration skills are essential things that must be developed in learning, both inside and outside

school. Cooperation can accelerate learning goals because, basically, a learning community always has better results than several individuals who study individually (Darling-Hammond et al. 2020). Through collaboration, students can improve communication skills, meaning that each group member must be able to work together and communicate well with the group (Forslund Frykedal and Hammar Chiriac 2018). This ability is essential as their provision in life in society later. In learning science in the classroom, it is necessary to cultivate the ability to think, work and behave scientifically and communicate as an essential aspect of life skills, following the current curriculum, namely Curriculum 2013, which emphasizes the ability of teachers to be able to implement an authentic, challenging, and meaningful learning process for students, so that students' potential can develop following the expectations of national education goals (Kurniaman and Noviana 2017).

Many learning outcomes are positively influenced because providing opportunities for students to work together cooperatively (Johnson and Johnson 1985). Habituation students to interact with the other will foster the attitude of the society which will be very useful for student's future. Habituation interacting with each other will also foster an attitude of cooperation that role in the student's social life (Sudiami, Martitah, and Subagyo 2019). Thus, the interaction between the student can improve students' learning outcomes and develop the attitude of social use for the social life of students.

Allowing the student to interact with each other can increase the learning outcomes. The interaction performed by the student either during learning or on the outside of the learning will give them a new brand perspective that can enrich the students' understanding. The low learning outcomes can be overcome by increasing understanding and optimizing a variety of learning resources, including the interaction and exchange of views with the students of the other. Providing an opportunity for students from different backgrounds to work and depend on each other to perform tasks together and learn to respect one

another can improve the student's understanding (Mallipa 2018).

Conclusions

Based on the formulation of the problem and the study results, it can be concluded that there is a significant relationship between the interactions between students at school and the learning outcomes of science at the Sumberagung elementary school Yogyakarta. Interaction between students affects 12.2% of student learning outcomes, while other variables influence 87.8% of learning outcomes.

Based on the conclusions of this study, suggestions can be given to many parties, among others: For the school should pay more attention to all learning facilities in schools so that learning can take place smoothly. Teachers need to pay more attention to student learning interactions, especially in learning activities, to improve student learning outcomes. As for other researchers, it is also expected that other researchers who conduct similar research with this research can use other variables not examined in this study to do better research and serve as research references.

Conflict of Interest: No potential conflicts of interest were reported by the authors.

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