JPPIPA 10(11) (2024)

Jurnal Penelitian Pendidikan IPA

Journal of Research in Science Education

http://jppipa.unram.ac.id/index.php/jppipa/index

Correlation Between Motivation to Learn and Science Learning Outcomes of Students SDN Lengahjaya 02, Bekasi District

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Received: May 21, 2024
Revised: August 10, 2024
Accepted: November 25, 2024
Published: November 30, 2024

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DOI: 10.29303/jppipa.v10i11.8810

Abstract: The purpose of this study is to determine: the learning motivation of Grade IV primary school students; the learning outcomes of Grade V primary school students in science; and the correlation between learning motivation and learning outcomes of Grade V primary school students in science. This research is a type of quantitative research with a descriptive correlational design. The population used in this study were all fourth-grade students from SDN Lengahjaya 02, a total of 63 students. The sampling technique was purposive sampling with a large sample size of 39. Data were collected using a research instrument in the form of a questionnaire. Of the 30 items tested, there were 28 valid questions. The data analysis technique used was product-moment correlation. The results showed that the average learning motivation of the students was 74.1 and the average learning outcome of the students was 71.5. There is a significant correlation between learning motivation and science learning outcome of the 5th grade students of SDN Lengahjaya 02 with a correlation test value of 0.323 and a low coefficient value.

Keywords: Learning outcomes; Motivation; Science learning

Introduction

The term "natural science learning" is used to describe the process of acquiring scientific knowledge during the elementary school years. The concept of science in elementary school is an integrated one, in that it has not been separated into discrete subjects, such as chemistry, biology, and physics. Science is defined as the systematic effort to understand the universe through observation and the application of procedures, with the aim of reaching a conclusion based on logical reasoning (Yulandra & Pujiastuti, 2019).

The objective of science education at the elementary level is to equip students with the ability to make observations. As stated by Kartikasari et al. (2018), the objective of science learning at the elementary school level is to instill fundamental concepts that will prove beneficial for students in the future. To this end, science learning should be conducted through scientific inquiry, thereby fostering the capacity to think, work and behave in a scientific manner, and communicating this as an essential aspect of life skills (Subali & Mariyam, 2013).

The completion of teaching tasks is dependent upon a number of factors related to the professional teacher. These include: mastery of the educational foundation; understanding of the field of educational psychology; mastery of subject matter; and ability to apply various learning methodologies and strategies (Fahdini et al., 2014). In accordance with Article 1, point 6 of Law number 20 of 2003 concerning the National Education System, educators are defined as those engaged in teaching and other educational roles, including teachers, lecturers, counsellors, learning assistants, widyaiswara, tutors, instructors, facilitators, and other designations in accordance with their specialities. They are responsible for the organization of education. In other words, it can be stated that teachers are educators. During the learning process, the teacher is

How to Cite:
Humairoh, S., Widiastuti, H., DS, Y. N., Harmawati, & Mutiara, I. I. (2024). Correlation Between Motivation to Learn and Science Learning Outcomes of Students SDN Lengahjaya 02, Bekasi District. *Jurnal Penelitian Pendidikan IPA*, *10*(11), 8476–8481. https://doi.org/10.29303/jppipa.v10i11.8810

responsible for ensuring its success. The extent to which students learn successfully depends on the teacher's ability to motivate them to learn (Irawan et al., 2024; Sam & Sulastri, 2024).

Motivation can be defined as the encouragement provided by educators to learners with the objective of fostering self-confidence and enthusiasm in the learning process. Aritonang (2008) defines motivation as a power or force that arises from within students, providing them with the necessary readiness to achieve predetermined goals. Motivation is a crucial element in the learning process, as it drives individuals to engage in learning activities (Servitri, 2017). It is of the utmost importance to cultivate student learning motivation, as failure in learning is not solely the responsibility of the student. In some cases, it may be the result of a teacher's inability to foster student learning motivation, which can lead to a decline in interest in learning and ultimately low learning outcomes (Awe & Benge, 2017).

Learning can be defined as a process of change in behaviour (Sedrakyan et al., 2020). An individual is deemed to have undergone a process of learning if they are able to demonstrate a change in their behaviour. Learning can be defined as the process by which an individual strives to achieve a new behaviour change (Sari et al., 2019).

Learning outcomes are changes in student behaviour based on experiences made by students in interacting with the environment (Anggraini & Untari, 2014). The end result of learning activities followed by students so that changes occur in individuals for the better starting from cognitive, affective, and psychomotor aspects. Learning outcomes are the culmination of student learning success against predetermined learning objectives, student learning outcomes can include cognitive, affective, and psychomotor aspects (Kristin, 2016). To change the individual self for the better, things that support learning outcomes are needed, such as facilities and teachers who are able to create a pleasant learning atmosphere. Learning outcomes are determined by the process of learning activities in the classroom and outside the classroom (Arianti & Aminatun, 2019; Huang et al., 2023).

The findings of the researchers' observations in Class V SDN Lengahjaya, Bekasi Regency, revealed several issues in the classroom. These included the teacher's tendency to commence the learning process by immediately delving into the subject matter or discussing the tasks assigned previously. Furthermore, students' motivation to learn remains low throughout the learning process. This is evidenced by the number of students engaging in conversation with their classmates and exhibiting inattentiveness to the teacher's explanations during lessons. Furthermore, students demonstrate a lack of seriousness in completing assigned tasks. Many students seek assistance from their peers to answer these tasks, and some students even express discontent when presented with the tasks.

Furthermore, teachers continue to employ conventional learning methods, with minimal use of media, relying primarily on existing sourcebooks. The use of the same learning methods and models on a daily basis has resulted in a decline in students' enthusiasm and engagement in the learning process. Additionally, the students' test scores and performance in science subjects are below expectations, as evidenced in the class teacher's assessment book.

The results of the interviews with the VA and VB homeroom teachers indicated that the majority of students exhibit a lack of enthusiasm for learning. Those who are genuinely invested in their studies tend to be more engaged, while others display a tendency to be less active and more inclined to engage in social interactions with their classmates. Furthermore, the learning resources provided by the educational institution are inadequate for the teaching and learning process. The teachers are only permitted to utilize a single source book for instructional purposes.

A teacher should be able to fulfil the role of an ideal teacher, which includes: the capacity to alter attitudes or exert influence and motivation on students; the utilization of an array of methodologies; the ability to disseminate knowledge to students; the capacity to regulate the classroom; and the mastery of the subject matter (Hadiyanto, 2014). A teacher is a professional educator whose primary responsibilities include the provision of education, instruction, guidance, direction, training, assessment, and evaluation of students. It is essential that teachers exemplify moral conduct and adhere to the ethical standards set forth in the Quran. From a professional standpoint, they must possess expertise that is rooted in religious principles (Aeni, 2015). The role of the teacher is therefore of great influence on student learning motivation, which represents the main factor in determining success in the learning process. The success of the learning process is inextricably linked to the role of the teacher in the teaching and learning environment.

One of the factors that affects student achievement is motivation. Students who are motivated will study harder, demonstrate resilience, perseverance and full concentration in the learning process (Hamdu & Agustina, 2011; Kim & Kim, 2021). The motivation to learn is correlated with the achievement of learning outcomes. It can be defined as the overall driving force within students that generates, ensures continuity, and provides direction for learning activities, with the aim of achieving set goals (Sri, 2014). Motivation is a crucial

element in the learning process, as it provides the impetus for individuals to engage in learning activities.

Method

This research is classified as descriptive correlational research. The study population comprised 63 students from SDN Lengahjaya in Bekasi Regency, from whom the sample was drawn. A total of 49 fifth-grade students were selected as the sample using the purposive sampling technique. This sampling technique is oriented towards selecting a sample where the population and specific objectives of the study are known by the researcher from the outset.

A variable is defined as the object of research or the point of attention of a study (Arikunto & Damayanti, 2013). In this study, the independent variable is learning motivation. The dependent variable in this study is "student science learning outcomes". The instrument employed in this study was a questionnaire completed by fifth grade students at SDN Lengahjaya in Bekasi Regency. In order to test the null hypothesis regarding the relationship between two variables (X and Y), researchers may employ the product moment correlation.

Result and Discussion

Result

The research data set comprises one independent variable, namely the Learning Motivation variable (X), and one dependent variable, namely Learning Outcomes (Y). This section will present a description of the data for each variable, processed and presented as an average value (mean), median, mode, and standard deviation. Furthermore, the frequency distribution tables for each variable are presented. The following section presents the results of the data processing conducted with the assistance of the statistical software package SPSS version 20.00.

The data pertaining to the Learning Motivation variables were obtained through the administration of a questionnaire comprising 28 items to a sample of 39 students. There are four alternative answers, with the highest score being 4 and the lowest score being 4.

Based on the data on the learning motivation variables, the highest score is 98 and the lowest score is 61. The mean (M) analysis yielded a score of 72.06, with a median of 72.00 and a mode of 72. The total score for this variable was 3629.

Table 1. Score Distribution for the Learning Motivation Variable

Parameters	Value
Mean	72.06
Median	72.00
Modus	72
Sum	3629

Based on the frequency distribution of the Learning Motivation variable above, it illustrates that high motivation is 2 people (4.0%), moderate motivation is 32 people (65.30%), low motivation is 15 people (30.61%). Low motivation as many as 15 people (30.61%), meaning that the learning motivation of SDN Lengahjaya students in Bekasi Regency is in the medium category. Data on learning outcome variables were obtained through the average daily test scores from science subjects with 49 students as respondents. Based on data on learning outcome variables, the highest score was 98 and the lowest score was 45. The results of the analysis of the Mean (M) price of 70.55Median (Me) of 72.00, Mode (Mo) of 49 Sum 3505.

Table 2. Frequency Distribution of Learning Motivation Variables

Motivation Categories	Range		
	Score	Frequency	Percentage (%)
Very High	≥107	0	0
High	85-109	2	4.00
Medium	63-84	30	65.30
Low	41-62	15	30.61
Very	≤ 40	0	0

Table 3. Acquisition of Learning Outcome Variable Score

Parameters	Value
Mean	70.55
Median	72.00
Modus	49.00
Sum	3505

The data range is calculated by the formula maximum value - minimum value, so the data range is 98-45 = 53. The frequency of the Learning Outcomes variable is predominantly concentrated within the interval 69-76, with 13 students (30.61%) exhibiting this outcome. Conversely, the least frequent outcome is observed within the interval 53-60, with a single student (2.04%) demonstrating this result. The following hypothesis is proposed in this study: The objective of this study is to ascertain whether there is a correlation between learning motivation and the learning outcomes of fifth grade students at SDN Lengahjaya, Bekasi Regency. The objective of this study is to ascertain the correlation between learning motivation (X) and the

learning outcomes of fifth grade students at SDN Lengahjaya, Bekasi Regency.

The correlation coefficient between learning motivation (X) and learning outcomes (Y) is 0.323, while the critical value of 0.281 indicates that the observed correlation is significant at the 0.024 level with alpha set at 0.05. This indicates that the probability value of 0.024 is less than the alpha level of 0.05, thereby rejecting the null hypothesis (Ho) and accepting the alternative hypothesis (H1). It can thus be stated that there is a significant correlation between learning motivation (X) and learning outcomes (Y) of SDN Lengahjaya students in Bekasi Regency at the 95% confidence level. Also yields the coefficient of determination (R^2), which is 0.171. This demonstrates that the extent of the influence of learning motivation (X) on learning outcomes (Y) is 0.171. In this context, it can be stated that 17.1% of the variation in the learning outcomes variable (Y) can be attributed to the learning motivation variable (X). The remaining 77.7% of the variance in the dependent variable (Y) is explained by other variables.

Table 4. Frequency Distribution of Learning Outcome Scores

Interval Class	Frequency	Percentage (%)
45-52	7	14.29
53-60	1	2.04
61-68	8	16.33
69-76	15	30.61
77-83	12	24.49
84-91	3	6.12
92-98	3	6.12
Total	39	100.00

The results demonstrate a correlation between learning motivation (X) and learning outcomes (Y) of fifth grade students at SDN Lengahjaya, Bekasi Regency, as evidenced by a value of r count greater than that of r table. As evidenced in the description, student learning motivation and learning outcomes are both classified as sufficient (Harefa et al., 2023). In the study conducted by Martínez et al. (2020), the attitude variable was identified as one of the most influential factors affecting learning outcomes.

It is not always the case that learning outcomes are identical; some are high, while others are low. Similarly, learning outcomes in science subjects are affected by these factors. It is not uncommon for students to encounter difficulties in achieving positive science learning outcomes. Given the pervasive influence of science on social, economic, cultural, historical, and political life, it is evident that science subjects are of paramount importance. The importance of science as a subject cannot be overstated, as the knowledge and skills acquired therein can be developed further in the community, both in the present and in the future (Agustian, 2023; Chakravartty, 2023; Kolade & Owoseni, 2022).

The pertinent research in this study is Manurung & Manurung (2021), entitled "Relationship between Motivation and Social Studies Learning Outcomes." The research design is a descriptive correlational model with a person as the unit of analysis. The data were collected using questionnaires and documents with the objective of studying fourth grade students at SDN Cabangbungin, Bekasi Regency. The research data indicates that 27 students (53.6%) exhibited high motivation, while the remaining 24 students (46.4%) demonstrated low motivation. The findings of this study may serve as a point of reference for future research endeavors. It can be posited that students with high motivation are more likely to achieve superior learning outcomes. There is a correlation between learning motivation and learning outcomes, whereby the two are mutually influencing. It may be reasonably assumed that a student who is motivated to learn in a given subject will achieve high learning outcomes.

Conclusion

In light of the findings of the research and subsequent discussion, a number of conclusions may be drawn. These include the observation that the average learning motivation of students in grade V at SDN Lengahjaya, Bekasi Regency is 71.55, while the average learning outcome for the same group of students is 74.06. There is a significant positive correlation between motivation and learning outcomes in science subjects for grade V students of SDN Lengahjaya, Bekasi Regency. This is indicated by the value of rcount from rtable (0.323>0.281) and a significance value of 0.024, which is less than 0.05 (0.024<0.05). Therefore, the correlation between learning motivation and science learning outcomes for fifth-grade students at SDN Lengahjaya, Bekasi Regency can be described as moderate.

Acknowledgments
We would like to thank all the authors and those involved in this research for their support so that this research can be completed properly.

Author Contributions
This article was write by five author's i.e S. H., H. W., Y. N. DS., H., and I. I. M, The authors listed in this article contributed to the development of the article, and have read, approved the published manuscript.

Funding
This research received no external funding.

Conflicts of Interest
The authors declare no conflict of interest.

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