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THE RELATIONSHIP BETWEEN LEARNING INDEPENDENCE AND THE ABILITY TO UNDERSTAND THE CONCEPT OF IPAS LESSONS FOR GRADE IV STUDENTS OF SDIT IBNU MAS'UD SINGKAWANG

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Abstract: *This study aims to find out the significant relationship between learning independence and the ability to understand the concepts of science lessons of grade IV students of SDIT Ibnu Mas'ud Singkawang. The type of research used is quantitative research with a correlational or relational approach. The research design used was bivariate correlation design. The sampling technique used in this study is census/total sampling. The research population of all grade IV students amounted to 30 students. The results of the study showed that there was a significant relationship between learning independence and the ability to understand the concept of science lessons of grade IV students of SDIT Ibnu Mas'ud Singkawang (Sig. 0.000 < 0.05). The value of the correlation coefficient of (r = 0.958) or at 91.7% of the relationship was positive with a very strong level of strength. Theoretically, these findings reinforce the theory that independent learning is an infortant factor in mastering academic concepts. Practically,the results of this study are expected to serve as valuable input for teachers in designing and implementing learning processes that can foster students' independent learning, thereby allowing their concept comprehension abilities to develop optimally*

Keywords*: Independent learning, Ability to understand concepts, IPAS.*

INTRODUCTION

Basic education plays an important role in improving human resources who are intelligent, characterful, and able to face future challenges. One of the important subjects in basic education is Natural and Social Sciences (IPAS), which combines aspects of natural and social knowledge to equip students with a holistic understanding and be able to apply it in daily life. Therefore, understanding concepts is the key to achieving optimal learning outcomes. In achieving optimal learning outcomes, it is very important for students to have the ability to understand concepts, According to Sadiyyah and Samsudin (2023), Concept understanding has a function to maximize students' mastery of the material studied. If students are able to understand the material well, then the opportunity to obtain maximum learning results will also be greater. When understanding is formed, students can face difficult material or various problems more easily in finding solutions.

Nasution (Ruqoyyah, et al. 2020) explained that the understanding of concepts includes three main aspects, namely the ability to know, explain, and draw conclusions. In line with what Nurhayati et al. (2021) said, concept understanding is the ability of students to understand concepts that include interpreting, giving examples, grouping, summarizing, estimating, comparing, and explaining a material in their own words from various events found in real life. The ability to understand concepts is the ability to explain a knowledge or concepts in their own words and can interpret or draw conclusions from explanations that can be in the form of letters, numbers, pictures, and so on (Novanto et al., 2023). Understanding concepts means the ability to understand the meaning of the material being studied. It shows how far students can accept, understand, and absorb the lessons taught by the teacher. According to Bahri & Adiansha (2020), it shows that a concept is the result of an understanding that combines two or more facts that have similar characteristics. Therefore, the ability to understand concepts is one of the important aspects that students must have in order to be able to connect various information obtained during the learning process. One of the factors that is suspected to affect the ability to understand concepts is the learning independence of students. This is supported by research conducted by Kurnianto, Susinani, and Chamdani (2021), entitled "The Relationship Between Learning Independence and Science Learning Outcomes of Grade V Students of SDN in Klirong District" the results of the study show that there is a positive and significant relationship between learning independence and

science learning outcomes of grade V students of SDN in Klirong District for the 2020/2021 school year with a moderate correlation level of 0.426. These findings show that the higher the level of student learning independence, the higher the science learning outcomes obtained. And vice versa, the lower the level of student learning independence, the lower the science learning results obtained.

In fact, social studies learning at the elementary school level often experiences difficulties in improving understanding of concepts. Many students get problems when trying to understand the basics of IPAS which affects student learning outcomes that are not satisfactory (Khofifah et al., 2024). Students still show low levels of learning independence, such as lack of concentration during the learning process, only learning when instructed, and having a tendency to cheat and be passive. Yamin and Sanan 2010 (Ananda & Hayati 2020) stated that one of the factors that can affect the low understanding of the concept is the lack of student learning independence. There are several factors that affect independence, such as the background of parents, the parenting style of the parents, the education system accepted at school, and the way of life in society. In addition, aspects that can affect the development of student independence are the family environment and the school environment.

Based on the results of initial observations made by researchers at SDIT Ibnu Mas'ud Singkawang, information was obtained, among others, that there are still many students who have difficulties in understanding the concepts in science subjects, especially science materials, students feel that the material is difficult to learn independently due to limitations in understanding the material without the help of teachers. During the learning process, some students seemed less focused and played more with friends, so they were not optimal in receiving the material. This shows that the level of student learning independence still varies, where some students are able to learn independently, but others are still very dependent on the teacher's explanation in understanding the material being studied. These problems have become a habit of students during the learning process. Therefore, learning independence greatly affects students' lives.

Learning independence is a situation in which students carry out the learning process independently without relying on others. Students have the desire, initiative, and responsibility for solving problems faced in learning (Indah., et al. 2020). Independence in learning for students is very important and must be developed, It allows students to do everything according to their abilities so that students who have a high level of learning independence tend to try to complete assignments or exercises given by teachers based on their abilities without depending on others. When students have used their thoughts well and according to their wishes, then achievements will also be easier to achieve. The results of the research conducted by Nurhayati, et al. (2021) show that, based on the results.

The research conducted found a significant relationship between learning independence and the ability to understand science concepts. Students who have good learning independence tend to be proactive and responsible for their learning process, and strive optimally to achieve success so that they obtain satisfactory learning outcomes. Learning independence, according to Ananda & Hayati (2020) is an activity where students have the awareness to learn without any pressure from the environment. In line with what Limaknun & ulfah (2023) say, learning independence is the ability to make one's own decisions, either with or without the help of others. It includes initiative actions in dealing with problems, tasks, and responsibilities for the results of actions that have been taken.

Independence is one of the very important traits for students to have. To instill this trait, it can be done through learning activities that take place inside and outside the classroom. Students who have high learning independence are usually not dependent on others and are more active in solving the problems they face without expecting help (Kurnianto et al., 2021). With the independence in learning that exists in students, they tend to show greater initiative to learn. Therefore, independence in learning plays an important role in improving student learning outcomes. One of the important aspects of these learning outcomes is the mastery of cognitive competencies in the form of understanding concepts. Comprehension is the ability of individuals to understand or grasp the meaning of something after knowing it and storing it in memory. In other words, understanding is the process of understanding something and being able to see it from various aspects. A student is said to be able to understand something if he can provide an explanation or give a more detailed description of it using his own words (Widiyanto, 2024:17). Therefore, students who have a high level of learning independence tend to be more likely to master the material in depth so that their ability to understand concepts increases.

Thus, the results of this study strengthen that learning independence is one of the important factors that contribute to students' ability to understand concepts in science subjects. Theoretically, this research is expected to enrich scientific studies on the relationship between learning independence and students' ability to understand concepts. Practically, the results of this research are expected to be input materials for teachers in designing and implementing learning that is able to foster student learning independence so that students' concept understanding abilities can develop optimally. The researcher is interested in conducting this study to find out the significant relationship between learning independence and concept comprehension ability in the science subject of grade IV students of SDIT Ibnu Mas'ud Singkawang. This research is expected to provide a clearer picture of the relationship between the two variables, as well as be a consideration in efforts to improve the quality of learning in schools.

Based on the background that has been presented, it can be understood that the understanding of the concept of social studies and learning independence are two interrelated and important aspects in the learning process. However, research that specifically examines the relationship between learning independence and the ability to understand science concepts, especially in science material "Energy and Its Changes", is still limited. Therefore, this study was conducted to determine the relationship between learning independence and the ability to understand concepts in science subjects for grade IV students of SDIT Ibnu Mas'ud Singkawang.

RESEARCH METHODOLOGY

The type of research used in this study is quantitative research with a correlational or relational approach. Correlation research is research that involves collecting data to find out whether there is a relationship and the level of relationship between two or more variables (Rukminingsih et al., 2020:72). Research design used in

This study is a bivariate correlation design. According to Sugiyono (2016), a bivariate research design is a design used to test the relationship or influence between two variables, namely one independent variable (X) and one bound variable (Y).

The data analysis techniques in this study are test and non-test techniques. The test technique in this study was applied to obtain the results of the test of the ability to understand the concept of science through essay questions on energy materials and their changes given to students. The non-test technique is using a questionnaire. This questionnaire is prepared in the form of questions with a choice of "yes" or "no" answers filled in by giving a check mark (√), compiled using a gutmann scale which contains statements referring to research indicators to determine student learning independence.

The sampling technique used in this study is census/total sampling. The research population of all grade IV students amounted to 30 students. The research data analysis technique used the Normality Test, Spearman Rank correlation test, linearity test and statistical test/hypothesis test analysis.to calculate the correlation of normal distributed data using the Pearson product-moment correlation analysis (PMM) technique.

RESULTS AND DISCUSSION

Results

The results of the research were data analysis on the relationship between learning independence and the ability to understand the concept of science lessons for grade IV students of SDIT Ibnu Mas'ud Singkawang on energy material and its changes. The results of the study are presented in table 1 and table 2 as follows:

Table 1 Student Learning Independence in Each Category

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Yes	Score	Frequency	Percentage	Categories
1	16-20	18	60%	Height
2	11-15	6	20%	Medium
3	0-10	6	20%	Low
Total		30	100%	

Table 2 Students' Ability to Understand Science Lesson Concepts

Yes	Frequency	Percentage	Categories
1	16	53,3%	Very Height
2	6	20,0%	Height
3	5	16,7%	Medium
4	3	10,0%	Low
5	0	0,0%	Very Low
Total	30	100%	

From table 1 above, it can be seen that student learning independence is most in the high category, which is 18 students (60%), student learning independence in the medium category is 6 students (20%), and student learning independence in the low category is 6 students (20%). This means the level of learning independence of grade IV students of SDIT Ibnu Mas'ud Singkawang is in the high category with an average individual score of 0.76.

The data in table 2 of the ability to comprehend the concept of science science lessons for grade IV students of SDIT Ibnu Mas'ud Singkawang in energy and its changes is most in the very high category, which is 16 students (53.3%), the ability to understand the concept of science science lessons for students in the high category is 6 students

(20.0%), the ability to understand the concept of science lessons for students in the medium category is 5 students (16.7%), and the ability to understand the concept of science science lessons for students in the low category amounted to 3 students (10.0%). The ability to understand the concept of science science lessons for fourth grade students of SDIT Ibnu Mas'ud Singkawang on energy material and its changes is classically in the high category with an average score of 74.5.

1) Normality Test

Table 3 Normality Test Results

Variable	N	Sig	X^{2count}	X^{2Table}	Conclusion
Learning Independence	30	0,05	7,42	11,07	Distributed Data Normal
Comprehension Ability IPAS Concept	30	0,05	6,85	11,07	Distributed Data Normal

In the table, it can be seen that the analysis: ◎ $^{2} \leq$ ◎ ^{2tables} (7.42 ≤ 11.07 and 6.85 ≤ 11.07) then the data of the variables x and y are normally distributed.

2) Linearity Test

Table 4 Anova Linearity Test

Source of variation (source)	Number of squares (JK)	Dk	Average (RK)	Calculation	Ftable
Regression (x)	3245,6	1	3245,6	162,2	4,20
Error (residue)	560,4	28	20,01		
Total	3806,0	29			

Analysis: based on the above results, the value of Fcal > F_{table} (162.2 > 4.20) and the value ϱ in spss < 0.05, then, the relationship between learning independence and the ability to understand science lesson concepts is linear.

3) Statistical/Hypothesis Tests

Table 5 Pearson Correlation Test Results

Variable		Learning independence (x)	Comprehension Ability IPAS concept (y)
Learning independence (x)	Pearson correlation	1	0,958
	Sig.(1-tailed)		0,000
Ability to understand concepts IPAS	Pearson Correlation	0,958	1
	Sig. (1-tailed)	0,000	

Based on the table above, a Sig. (1-tailed) value of 0.000 was obtained. Because the value is 0.000 < 0.05, it is according to the test criteria. It is concluded that there is a significant relationship between independence learning with the ability to understand the concept of science lessons for grade IV students of SDIT Ibnu Mas'ud Singkawang.

Discussion

This research was carried out at SDIT Ibnu Mas'ud Singkawang. The population in this study is all grade IV students consisting of 1 class totaling 30 students. This study was conducted with the aim of determining the level of learning independence of grade IV students, to determine the level of ability to understand the concept of science subject of grade IV students, and to find out whether there is a significant relationship between learning independence and the ability to understand the concept of science subject of grade IV students.

After conducting research, the researcher provided a questionnaire sheet to measure student learning independence in science material lessons and then ended by providing a test sheet on the ability to understand science lesson concepts which was used to determine students' ability to understand concepts regarding energy science material and its changes. Next, the researcher calculated the student learning independence questionnaire and tested the ability to understand the concept of IPAS. The learning independence questionnaire consists of 20 statements. In addition, the test of the ability to understand the concept of science on energy and its changes is given in the form of essay questions totaling 14 questions. According to Kurnianto et al. (2021), it shows that students who have high learning independence are usually not dependent on others and are more active in solving the problems they face without expecting help. With the independence in learning that exists in students, they tend to show greater initiative to learn. Therefore, independence in learning plays an important role in improving student learning outcomes. This shows that students are able to manage their learning activities independently, have responsibility for the tasks given, and take the initiative in understanding the material without relying on the help of others.

The findings show that learning independence is one of the important roles in the learning process. This is in line with the view that independence in learning is considered a cognitive and metacognitive ability that is very important for lifelong learning (Hariyadi et al., 2023). Students who are able to manage their learning activities independently tend to be more active in seeking information, understanding the material and completing tasks given by teachers. These conditions can form a better understanding of concepts. A strong relationship between the two variables can occur because students who have a good level of learning independence have the initiative to learn without expecting the help of teachers. Students are encouraged to look for additional learning resources and try to understand the material more deeply, so that their understanding of concepts is more optimal.

Understanding concepts is one of the important aspects of learning because it is the basis for students to connect the various information obtained. Students who understand concepts well are not only able to remember the material, but also be able to explain it again and apply it in daily life. The results of this study are in line with experts who state that learning independence is the ability of students to regulate, control and be responsible for their own learning process. This ability allows students to focus more on achieving the learning goals that have been set. The results of this study are in line with the research conducted by Nurhayati et al (2021) which showed that there is a significant relationship between Learning Independence and Understanding of Science Concepts of SDN Cluster III Gunungsari students. This is shown by the Thcal correlation coefficient of 0.503. It is greater than the Trabet price with a significant level of 5% with N = 30 which is 0.361. This means that the higher the student's learning independence, the higher the level of understanding of science concepts that students have. On the other hand, the lower the student's learning independence, the lower the understanding of science concepts possessed by students. Strengthened by research by Isnaeni et al. (2022), it shows that learning independence and the learning environment in schools are positively and significantly correlated together with the science learning outcomes of grade students V SDN in Klirong District. So that the higher the independence of learning in school, the higher the science learning results obtained, and vice versa.

Theoretically, this research is expected to enrich scientific studies on the relationship between learning independence and students' ability to understand concepts. These findings reinforce the view that students who are able to manage their learning process effectively will find it easier to build an understanding of the concepts learned. Practically, the results of this research are expected to be input materials for teachers in designing and implementing learning that is able to foster learning independence by providing opportunities for students to be more active in seeking information, discussing, and completing assignments independently so that their concept understanding skills can develop optimally.

In the context of this study, grade IV students of SDIT Ibnu Mas'ud Singkawang who have a good level of independence tend to show higher conceptual understanding skills. This can be seen from the students' ability to understand the science subject material and complete tasks related to the concepts that have been studied. Thus, the results of this study show that learning independence is one of the important factors that contribute to students' ability to understand concepts in science subjects. Based on the results of the study, it can be understood that the understanding of the concept of IPAS and learning independence are two aspects that are interrelated and play an

important role in the learning process.

Based on the results of the research, it can be concluded that there is a significant relationship between learning independence and the ability to understand the concept of science subjects of fourth grade students of SDIT Ibnu Mas'ud Singkawang (Sig. 0.000 < 0.05). The relationship was positive with a very strong strength level (r = 0.958) with a percentage of 91.7%. These results show that the higher the level of student learning independence, the higher the ability to understand the concept of IPAS, especially in energy materials and their changes.

CONCLUSION

Based on the results of data processing, research and discussion, it can be concluded that: 1). The level of student learning independence in the science materials of grade IV students of SDIT Ibnu Mas'ud Singkawang with an overall average score of 0.76 in the high category 2). The level of ability to understand the concept of science science lessons for grade IV students of SDIT Ibnu Mas'ud Singkawang on energy material and its changes with an overall average score of 74.5 in the high category 3). There is a significant relationship between learning independence and the ability to understand the concept of science science lessons for grade IV students of SDIT Ibnu Mas'ud Singkawang (Sig. 0.000 < 0.05). The relationship was positive with a very strong strength level (r = 0.958) with a percentage of 91.7%. This shows that the higher the level of student learning independence, the higher the ability to understand the concept of science lessons in energy and its changes. This research has several limitations that need to be considered. First, this research was only conducted on fourth grade students of SDIT Ibnu Mas'ud Singkawang, so the results of the study could not be widely generalized to all students in other schools. Second, this study only examines the relationship between learning independence and the ability to understand science lesson concepts, so that there are still other factors that affect students' understanding of science lesson concepts, but some have not been researched. Third, the collection of learning independence data uses a questionnaire based on student answers, so that there is a possibility of a difference between the actual condition and the answers given.

Based on the limitations of the research that has been described, the researcher is further advised to develop this study by adding other relevant variables or using different research methods, as well as expanding the subject and research material to obtain more comprehensive and varied results.

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