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The Relationship Between Intrapersonal Intelligence and Learning Motivation on Student Learning Outcomes in Biology Subjects

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Abstract: This research is a correlational study that aims to determine the correlation between intrapersonal intelligence and learning motivation on learning outcomes. The research sample was 55 students by saturated sampling technique. Data collection techniques used documentation and an intrapersonal intelligence questionnaire with 45 statement items and a learning motivation questionnaire with 32 statement items. Data were analyzed using statistical analysis of product moment correlation test, simple regression and multiple regression. The results of the study show that (1) there is a corellation between intrapersonal intelligence and learning outcomes with a correlation value of 0,351. (2) there is a correlation between learning motivation and learning outcomes with a correlation value of 0,400. (3) there is a correlation between intrapersonal intelligence and learning motivation on learning outcomes with a correlation value of 0,472. So it can be concluded that there is a positive correlation between intrapersonal intelligence and learning motivation on student learning outcomes.

Keywords: learning outcomes, learning motivation, intrapersonal intelligence.

INTRODUCTION

The final goal in a learning process is to achieve maximum learning outcomes. Learning outcomes are abilities obtained by individuals after the learning process takes place which can provide changes in behavior in terms of knowledge, understanding, attitudes and skills of students so that they become better than before (Purwanto, 2002). Learning outcomes are influenced by two factors, namely those originating from within the student (internal) and factors originating from outside the student (external). The internal factors include intelligence, attention, interest, talent, motivation, maturity and readiness. (Saputra, et. al., 2018). Learning outcomes themselves are influenced by something that comes from within the student, namely feelings and emotions. Therefore, students must have an ability that can help them recognize the feelings and emotions they are experiencing, one of which is intrapersonal intelligence.

Intrapersonal intelligence is a person's ability to understand themselves and act based on that understanding. This intelligence includes the ability to understand oneself accurately (self's strengths and limitations), awareness of moods, intentions, motivations, desires, as well as the ability to be self-disciplined, understand and respect

oneself (Riyanto, 2012). With this intrapersonal intelligence, students can understand themselves by recognizing the weaknesses and strengths that exist within the individual. According to Kurniawan (in Campbell, 2004) states that if students have intrapersonal intelligence they will try to actualize themselves. Therefore, it is necessary to have intrapersonal intelligence in students, so that they can recognize the feelings and emotions they are experiencing and can express them appropriately.

Based on the results of the author's interview with one of the biology subject teachers for class X MIPA at MAN 2 Tasikmalaya City, he asked about matters relating to intrapersonal intelligence, learning motivation and learning outcomes at school. The students' own learning outcomes in biology subjects are on average good, but there are some students who still have scores below the minimum completeness criteria (KKM). In matters related to the characteristics of intrapersonal intelligence, namely being able to work independently, in this case students should not cheat when they are working on exam questions, this can be seen from their lack of independence when working on questions. Another characteristic, namely being able to self-actualize, in this case students should have a sense of courage if the teacher asks students to come forward voluntarily but in reality students still feel reluctant and even afraid to come forward, students will move forward if only appointed by the teacher . Supposedly, if students have good intrapersonal intelligence, they will be braver to move forward without having to be asked by the teacher as a form of self-actualization. These things are contrary to the characteristics of intrapersonal intelligence.

This lack of optimal learning outcomes can be caused by low intrapersonal intelligence, this is in line with Lwin (2008) who states that intrapersonal intelligence is the ability to understand oneself and be responsible for one's own life. In line with this, people who have high intrapersonal intelligence tend to be thinkers who are reflected in what they do and constantly make judgments on themselves. Apart from intrapersonal intelligence, according to Palittin's opinion (in Sardiman, 2014) states that a person's success in the learning process depends on oneself and also on the environment. A great desire from within oneself to succeed will make a person more active in learning. This desire is what is called motivation. This learning motivation can also cause low learning outcomes, this is in line with Muthmainnah (2019) who states that learning motivation is an absolute requirement for learning, playing an important role in providing enthusiasm for enthusiasm for learning. Motivation to learn is not only a driving force for achieving learning goals, where there is understanding and development of learning. With learning motivation, every student motivates himself to learn not only to know but more to understand the results of the learning. The motivation possessed by students greatly determines the level of success or failure in the student's learning process. A student who has high learning motivation will be able to achieve success both in the learning process and results. On the other hand, a student who does not have motivation in learning will not be able to carry out learning activities, so it will be very difficult tosuccessful in both the learning process and outcomes.

The aim of this research is to determine the relationship between intrapersonal intelligence and biology learning outcomes, learning motivation with biology learning outcomes, as well as intrapersonal intelligence and learning motivation with biology learning outcomes. Apart from that, it is hoped that this research can become a reference for further research, especially aimed at improving optimal biology learning outcomes.

METHOD

Research Design

This research method uses a quantitative approach with correlational methods. Where this method is used to find the relationship between several variables used into correlation coefficients and is statistically significant. According to Arikunto (2013) "Correlational research is research carried out by researchers to determine the level of relationship between two or more variables, without any data manipulation."

This research was conducted at one of the MANs in Tasikmalaya City. The target of this research is class X MIPA for the 2021/2022 academic year with a population of 2 classes consisting of 61 students. The number of samples in this study was 2 classes, consisting of 25 students in class X MIPA 1 and 30 students in class X MIPA 2 with a sampling technique using a saturated sampling technique.

Research Instruments

Data collection techniques in this research are in the form of questionnaires and documentation. The research instruments used were an intrapersonal intelligence questionnaire adapted from Linda Campbell (2004) with 45 valid items and a learning motivation instrument adapted from Hsiao Lin Tuan (2015) with 32 valid items. Before data collection is carried out, instrument testing, validity testing and reliability testing are carried out. The scale used in this research is the Likert scale. Data collection was obtained by distributing questionnaires. Documentation in this research is used to collect and obtain data sourced from teacher assessment documents regarding student learning outcomes in biology subjects taken from PAS (Final Semester Assessment) scores for the even semester of the 2021/2022 academic year. Data processing and analysis techniques in this research are prerequisite analysis tests including normality tests, linearity tests, and multicollinearity tests, then hypothesis tests which include the Pearson correlation test and multivariate correlation regression test using SPSS 24 for Windows.

RESULT AND DISCUSSION

The prerequisite test results for analysis using SPSS 24 for Windows have a significance level of 5%, namely the variables of intrapersonal intelligence, learning motivation and learning outcomes come from normally distributed data because they have a significance of > 0.05. A linearity test was also carried out with a significance value between intrapersonal intelligence on learning outcomes, namely 0.391 and learning motivation on learning outcomes, namely 0.868, which means both > 0.05, so it can be said that the data is linear. Apart from that, the multicollinearity test with a tolerance value between independent variables was 0.923 and the VIF value obtained was 1.083. This shows that there is no multicollinearity between the independent variables because the collinearity statistic value is <10.00. After testing the analytical prerequisites, hypothesis testing is then carried out. The first hypothesis test uses a bivariate correlation test with the help of SPSS 24 for windows which can be seen from Table 1.

Table 1. Bivariate Correlation Test of Intrapersonal Intelligence on Learning Outcomes

Model	R	R *Square*	*Adjusted* R *Square*	*Std. Error of the Estimate*	*Change Statistics* R *Square Change*	F *Square Change*	df1	df2	*Sig. F Change*
1	0,351	0,123	0,107	2,204	0,123	7,445	1	53	0,009

a. *Predictors: (Constant),* Kecerdasan Intrapersonal Intrapersonal Intelligence

b. *Dependent Variabel* : Learning Outcomes

Based on Table 1, it is stated that the significance value is 0.009 <0.005. This means that rejecting H0 means there is a significant correlation between intrapersonal intelligence and biology learning outcomes. The correlation coefficient (R) between intrapersonal intelligence and student learning outcomes is 0.351, which means there is a relationship between variables that are included in the low category. Apart from that, the coefficient of determination (R2) value was also obtained at 0.123. This shows that intrapersonal intelligence contributes 12.3% to student learning outcomes while the remaining 87.7% is determined by other variables.

Seeing that the relationship between students' intrapersonal intelligence and learning outcomes is in the low category. This means that students still lack independence, lack self-confidence, lack awareness of their emotional levels, lack motivation in learning and are unable to reflect on themselves. Intrapersonal intelligence is intelligence that originates from within oneself. This intelligence functions to understand oneself, both in terms of one's strengths and weaknesses. This is in line with the opinion of (Maitrianti, 2021) who explains that intrapersonal intelligence is an understanding of oneself and the ability to act based on one's knowledge. This intelligence includes awareness of one's strengths and weaknesses, awareness of one's moods, motivations, temperament and desires. In research results (Rochmahwati et al., 2018) which states that if intrapersonal intelligence increases, emotional intelligence will also be higher. Intrapersonal intelligence is important for developing a strong understanding of oneself that leads to emotional stability. As well as research (Pasaribu et al., 2018) which explains that successful learning outcomes are also related to intrapersonal intelligence. By developing intrapersonal intelligence as early as possible, it can shape a child's character and instill positive values in him, such as self-confidence, independent thinking, a great sense of empathy and having a positive self-concept about himself. Through intrapersonal intelligence, students will be able to develop a strong understanding of themselves which leads them to emotional stability.

Testing the second hypothesis uses a bivariate correlation test with SPSS 24 for Windows which is shown in Table 2.

Table 2. Bivariate Correlation Test of Learning Motivation on Learning Outcomes

					Change Statistics				
Mode l	R	R *Square*	*Adjuste d* R *Square*	*Std. Error of the Estimate*	R *Square Change*	F *Square Change*	df1	df2	*Sig. F Change*
1	0,400	0,160	0,144	2,157	0,160	10,111	1	53	0,002

a. *Predictors: (Constant),* Motivation to Learn

b. *Dependent Variabel* : Learning Outcome

Based on Table 2, it is stated that the significance value is 0.002 <0.005. This means that rejecting H_0 means there is a significant correlation between intrapersonal intelligence and biology learning outcomes. The correlation coefficient (R) between intrapersonal intelligence and student learning outcomes is 0.400, which means there is a relationship between variables which are included in the low category. Apart from that, the coefficient of determination (R2) value was also obtained at 0.160. This shows that intrapersonal intelligence contributes 16% to student learning outcomes while the remaining 84% is determined by other variables.

The research results obtained show that the relationship between learning motivation and student learning outcomes is in the moderate category and is positive. These results are influenced by several factors, lack of motivation to learn is one of the inhibiting factors in determining student learning outcomes. This is supported by the opinion (Zamsir et al., 2015) that a student who has motivation to learn will show interest, attention, perseverance in learning and also obedience in himself and is always ready to learn, so that students have strong motivation. High levels make it possible to obtain better learning outcomes. Rizqi (2019) explains that in learning activities, motivation can be said to be the overall driving force within students which gives rise to learning activities, which ensures the continuity of learning activities and provides direction to learning activities. In line with the opinion of (Priyanto et al., 2020) motivation is not only a factor that causes learning activities to emerge, but can also be a factor that makes learning activities run smoothly and learning outcomes increase. However, it is not only the students' role that the teacher also plays in helping to motivate students to learn. This is in line with research (Emda, 2018) in teaching and learning activities, teachers can also deliver material using interesting learning media so that it can attract students' attention so that the learning atmosphere does not feel boring. And it is also appropriate for an educator to continue to improve competence in motivating students' learning so that they are able to improve learning outcomes. For this reason, both educators and students must work together to increase learning motivation in order to get better learning outcomes.

So, based on the data obtained by the researchers, it shows that learning motivation is an internal factor that contributes to learning outcomes, because with good learning motivation, students will also have the driving force within themselves to achieve their goals. Learning motivation has a good impact on the learning process, students will participate in the learning process without feeling burdened, and can play an active and enthusiastic role when participating in learning. Thus, learning motivation is positively related to student learning outcomes. This means that learning motivation is needed to improve student learning outcomes.

Next, testing the third hypothesis uses a multivariate correlation regression test with the help of SPSS 24 for windows which can be seen in Table 3.

Table 3. Multivariate Correlation Regression Test of Intrapersonal Intelligence and Learning Motivation on Learning Outcomes

					Change Statistics				
Model	R	R *Square*	*Adjusted* R *Square*	*Std. Error of the Estimate*	R *Square Change*	F *Square Change*	df1	df2	*Sig. F Change*
1	0,472	0,223	0,193	2,095	0,223	7445	2	52	0,001

a. Predictors: (Constant), Motivation to Learn, Intrapersonal Intellegence

b. Dependent Variabel : Learning Outcome

Based on Table 3, it is stated that the significance value is 0.001 < 0.005. This means that rejecting H0 means there is a significant correlation between intrapersonal intelligence and biology learning outcomes. The correlation coefficient (R) between intrapersonal intelligence and student learning outcomes is 0.472, which means there is a relationship between variables which are included in the low category. Apart from that, the coefficient of determination (R2) value was also obtained at 0.223. This shows that intrapersonal intelligence contributes 22.3% to student learning outcomes while the

remaining 77.7% is determined by other variables. Furthermore, to find out the effective contribution (SE) and relative contribution (SR) of each independent variable are shown in Table 4.

Table 4. Calculation of Effective Contributions and Relative Contributions

Variable	SE (%)	SR (%)
Intrapersonal Intellegence	9,13%	13,12%
Motivation to Learn	41,0%	59,0%
Total	22,3%	100%

In Table 4 it is known that the effective contribution made from the independent variables, namely intrapersonal intelligence, was 9.13% and learning motivation was 13.12%, so the total SE obtained was 22.3%. Apart from that, the relative contribution (SR) given from intrapersonal intelligence was 41.0% and learning motivation was 59.0% so the total SR was 100%. Thus, it can be concluded that the learning motivation variable has the most dominant contribution to student learning outcomes.

Meanwhile, researchers categorize independent variables based on their indicators. The average achievement score for each indicator of intrapersonal intelligence can be seen in Figure 1 below.

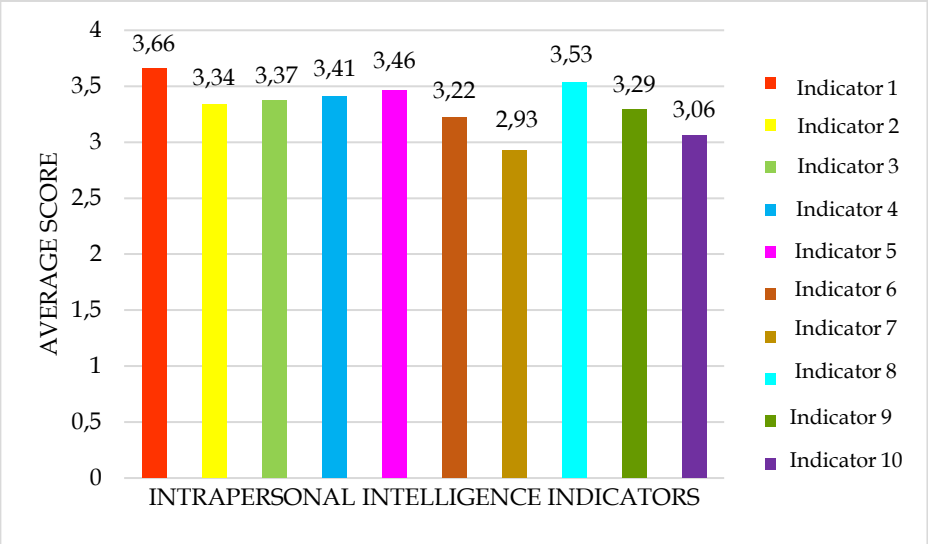

Figure 1. Average Score of Intrapersonal Intelligence Indicators

The 1st indicator (Aware of one's emotional area) is the indicator that has the highest average score, namely 3.66. The high average of this indicator means that students have a high attitude in dealing with their emotions, in this case students will be aware of the feelings that are occurring within them, whether they are feeling sad or feeling happy. In line with the statement according to (Maitrianti, 2021) states that emotional self-awareness is the ability to recognize and sort feelings, understand what we are feeling, and know the causes of these feelings, as well as the influence of our behavior on other people.

Meanwhile, the indicator that has the lowest average score is the 7th indicator (continuously managing learning and developing personal goals), namely 2.93. This means that students lack character in terms of setting goals, especially in their learning.

In fact, continuously managing personal development is important to make it easier and to know what you want or do so that you become better. In line with the opinion of (Irwan, 2018), he explains that with intrapersonal intelligence, a student who has the ability to continuously manage learning and develop his/her personal goals on an ongoing basis will have a clear target.

Furthermore, the average achievement score for each indicator of learning motivation can be seen in Figure 2 below

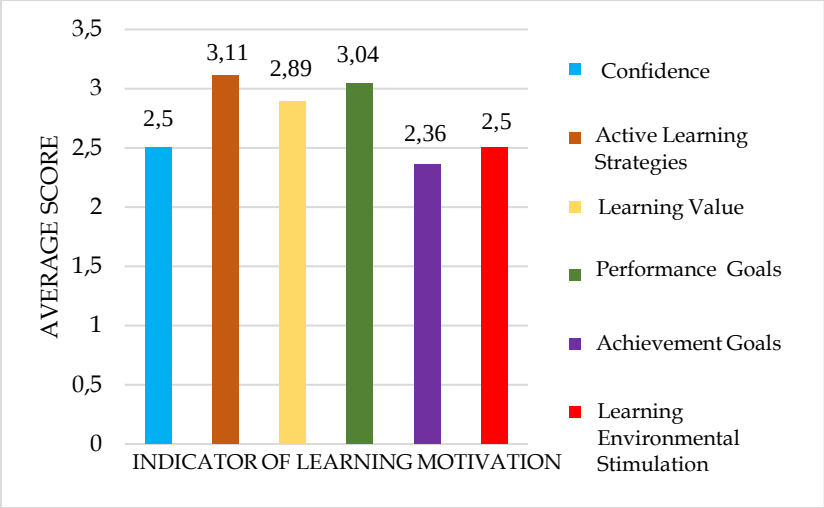

Figure 2. Average Score of Learning Motivation Indicators

Based on Figure 2, it shows that the 2nd indicator is the indicator that has the highest average score, namely 3.02, which is the 2nd indicator (active learning strategy). This indicator invites students to learn actively so they can dominate the learning process. This is in line with the statement (Syaparuddin et al., 2020) explaining that active learning strategies are teaching and learning strategies that aim to improve the quality of education. And to demand student involvement so that the learning process becomes effective and efficient. And requires various supports in the teaching and learning process. For example, from the nature of students, teachers, learning situations, learning programs and learning facilities.

Meanwhile, the indicator with the lowest score of 2.50 is the 6th indicator (learning environmental stimulation). A good learning environment will influence students' motivation in learning. In line with the statement (Noviati, 2019) explains that the learning environment should be made as comfortable as possible in each school, this can help students concentrate better. A good learning environment is an environment that challenges and stimulates students to learn, provides a sense of security and satisfaction and achieves the expected goals. So this learning environment is very important in supporting a learning process so that it runs effectively and efficiently.

CONCLUSION

Based on the research results, data processing and hypothesis testing, the author concludes that the results of this research show that there is a positive relationship between intrapersonal intelligence and learning motivation on student learning outcomes with a significance value of 0.001 < 0.05 and a correlation coefficient of 0.472. So it can be said that the higher the intrapersonal intelligence and learning motivation, the higher the learning outcomes will be.

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