

The Effectiveness of Using Multiple Intelligences Learning Models on Biology Learning Outcomes of Class VII Students in Madani Junior High School of Makassar

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Abstract

The aim of this study was to determine the biology learning outcomes of Grade VII students of Madani Junior High School of Makassar on the subject of diversity of living creatures that were learned with the Multiple Intelligence learning models. This type of research is quasi-experimental using a pretest-posttest nonequivalent control group design. The population of this study were all VII grade students of Madani Junior High School of Makassar in the 2018/2019 school year consisting of 3 study groups totaling 67 students with a sample of 21 people in class VII2 and 21 people in class VII1. The results showed that the value of sig.count was 0.889 with sig.table (α) of 2.021. Thus it is clearly seen that the value of sig.calculate (0.889) < sig.table (2.021), means that H0 is rejected H1 is accepted, meaning it can be concluded that the biology learning outcomes of students taught by the Multiple Intelligences learning model have a positive effect on the material diversity of living things in Madani Junior High School of Makassar.

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1. Introduction

Education is a very integral part of the development to improve human resources. The quality of education is determined by the learning process. One sign of someone learning is a change in behavior in him. The product of an ideal learning process is good and optimal results. Psychologically, learning is a process of behavior change as a result of interaction with the environment in meeting their needs. These changes will be evident in all aspects of student behavior [1].

Good learning is carried out systematically where each component influences one another. Implicit nature consists of choosing, establishing, and developing methods to achieve the desired learning outcomes. Learning will focus on

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attention and how to learn students and more emphasis on ways to achieve the goals to be achieved [2].

Cognitive learning outcomes are behavioral changes that occur in the realm of cognition. Cognitive learning outcomes are not a single ability, these abilities that lead to changes in behavior in the cognitive domain include several levels or levels. Cognitive consists of six aspects, namely knowledge or memory, understanding, application, analysis, evaluation, and creation. Affective learning outcomes are those relating to attitudes consisting of five aspects, namely acceptance, answers or reactions, judgments, organization, and internalization [3].

Based on observations at school, it is found that the teacher has not been able to determine an alternative learning model that can boost student learning outcomes because there is a lot of information on the use of strategies, approaches and models that exist today so that the impact on student learning outcomes is not evenly distributed so that it still many do not meet graduation standards so they must do remedial. The learning outcomes of some students still have grades below the graduation standard. This can be seen from the results of the last two years of learning in the 2015/2016 school year and 2016/2017 school year which shows the results in general students get an average value of 70, below the expected completeness value of 75. This is used as researcher consideration to choose Makassar Madani Junior High School as a research location.

The results of previous studies conducted by Rahmawati [4], said that the use of Multiple Intelligence learning models in students of SMP Negeri 2 Sukabumi can significantly increase student learning outcomes where the increase in student learning outcomes before (pre) and after (post) treatment there are differences that is an average of 56.53 to an average of 76.34. Another study conducted by Kurnianti [5], said that the application of the Multiple Intelligence learning model was able to significantly increase student motivation and learning outcomes in class VII SMP 3 West Bajeng. Where the real level of difference in learning outcomes obtained by students is 23.45. The problems faced at Madani Makassar Middle School regarding the low learning outcomes of students, especially biology, it requires a method or way to overcome them by following the results of research conducted by previous researchers. Based on the description above, the researcher will conduct research.

2. Multiple Intelligences

Multiple Intelligences which in Indonesian is translated as multiple intelligences or multiple intelligences is one of the intelligence theories that has gained a lot of recognition lately. This theory was coined by Howard Gardner in 1983, a psychologist from Harvard. The theory states that humans have several types of intelligence. He based his theory more on the study of people who suffered brain damage and studied the relative capacity or disability to learn. [6] In the world of education, the theory of Multiple Intelligences began to be accepted because it was considered to better serve all the intelligence possessed by children. This concept makes students more discerning about seeing differences, and makes children feel more welcomed and served. This concept "removes" the myths of smart and unintelligent children, because according to this concept, all children are essentially intelligent. It's just that the smart concept needs to be defined with a new foundation. Based on the definition above, it can be concluded that multiple intelligences are intelligence possessed by someone who can emerge when there is a positive response given so that they can overcome a problem both on themselves and on people other.

According to Dewi [7] There are two stages must be done in the application of learning to get optimal results, namely:

- a) The teacher groups students according to their abilities such as interests, hobbies and intelligence that they have that stand out by asking about the things they like.
- b) The teacher divides the material for them to discuss in their ways based on the level of intelligence they have.
- c) The teacher controls the learning process by providing direction and guidance so that each student can understand the material provided without having to make a fuss in his group.
- d) The teacher optimizes the achievement of the subject based on the outstanding intelligence of each student by providing an opportunity to explain the material that has been distributed to friends in the class.
- e) The teacher allows other students to ask and answer the questions that have been provided.

- f) The teacher gives explanations of the material as reinforcement to students, so they understand the material that has been given.

3. Author Artwork

This research was conducted at Makassar Madani Junior High School and the time of the research was carried out in Odd Semester 2018/2019 Academic Year. The type of research used was quasi-experimental research with the research design to be used in this study was the posttest control group design [8]. In this design there are two groups have been randomly selected, then the two are treated but do not conduct an initial activity assessment (pretest) and the final result will be assessed (posttest). This can be seen in table .

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Experiment	O ₁	X	O ₂

With:

X : Application of the Multiple Intelegenes learning model

O₁ : The learning outcomes before (pretest) the application of the Multiple Intelegenes learning model

O₂ : The learning outcomes after (posttest) the application of the Multiple Intelegenes learning model

The population in this study were all VII grade students of Makassar Madani Middle School in the 2016/2017 school year consisting of 3 study groups totaling 67 students. Data obtained from research samples will be in the form of quantitative data. The data will be analyzed using two kinds of data analysis techniques, namely dexrictive analysis and inferential analysis.

Table. 2 Categorizing Student Learning Outcomes

No	Point	Category
1.	0 – 20	Very low
2.	21 – 40	Low
3.	41 – 60	Moderate
4.	61 – 80	High
5.	81 – 100	Very high

Table. 3 Minimum completeness criteria (KKM) Students

Point Interval	Criteria
70 – 100	Complete
≤ 69	Not complete

4. Result and Discussion

Descriptive statistical analysis is intended to describe the level of achievement of learning outcomes of students who are taught by using the Multi Intelegenes learning model.

Table 4. Descriptive Statistics of Student Learning Outcomes Before and After Using the Multiple Intelligence Learning Model

No	Statistics	Pretest	Posttest
1	Size	21	21
2	Maximum	90	95
3	Minum	60	60
4	Mean	70,71	71,19

Table 5. Frequency Distribution and Percentage of Student Learning Outcomes before and After the Application of the Multiple Intelligence Learning Model

Point	Category	Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage
0 – 20	Very low	0	0 %	0	0 %
21 – 40	Low	0	0 %	0	0 %
41 – 60	Moderate	8	38,10 %	7	33,33 %
61 – 80	High	10	47,62 %	8	38,10 %
81 – 100	Very high	3	14,28 %	6	28,57 %
Total		21	100%	21	100%

To test the normality of the results of statistical analysis with the help of SPSS version 20.0, the sig.test value of class VIII1 obtained by the Multiple Intelequences learning model is 0.222 and the sig value of class VIII2 which is taught by the Cooperative learning model is 0.231, while the sig.table value for the class 2 parties) is 0.05. So Sig. calculated Sig.table or $0.222 > 0.05$ and $0.231 > 0.05$, it can be concluded that H0 which states that the population is normally distributed is accepted and H1 which states that the population that is not normally distributed is rejected. For the homogeneity test the Sig value is obtained. equal to 0.654, then the probability / significance ratio is the value of sig. $0.654 > \text{value} = 0.05$. So it can be concluded that the data of the two groups of biology learning outcomes of students taught using the Multiple Intelligence Learning Model and the Cooperative learning model are homogeneous or because the probability value (significance) is 0.654 greater than 0.05 then H0 is accepted so the use of t test uses Equal variance assumed. Based on the test results that have been done, the value of sig.calculating is 0.889 with sig.table (α) of 2.021. Thus it is seen that the value of sig.calculate (0.889) $<$ sig.table (2.021), means that H0 is rejected H1 is accepted, it means that it can be concluded that the biology learning outcomes of students taught by the Multiple Intelequences learning model differ significantly between before and after material Diversity of living beings in Makassar Madani Middle School.

The high value of learning outcomes due to learning Multiple Intelligence encourage students to be involved in total work in groups. So in the class that is applied with Multiple Intelequences students in groups are more pro-actively trying to complete the given task because there are demands to answer the questions contained in the worksheet, thus it can be said that the learning outcomes of students in following Cooperative learning type Multiple Intelequences develop optimally . This, in line with research conducted by Nina [9] that through learning Multiple Intelligences these students can better understand the concept because through this stage students can analyze the purpose of the contents of the text. And by making small notes students can distinguish and unite the ideas presented in the reading text, then in the stage the students can better understand through conversations between fellow individuals, dare to express opinions about the knowledge they have about the material being studied, so that students make students are more independent in solving the given problem.

5. Conclusion

Biology learning outcomes of students on the subject of diversity of living things taught by the Multiple Intelligence learning model before applying to students of class VIII1 Makassar Madani Middle School are in the high category with a percentage of 38.10% of 21 students and an average value of 71, 19 and Biology learning outcomes of students taught by the Multiple Intelligence learning model for students of class VIII2 at Madani Makassar Makassar after applying are in the high category with a percentage of 47.62% of the 21 students and an average value of 70.71. This is based on the hypothesis test with the t test. The results show the value of sig.calculate (0.889) $<$ sig.table (2.021), meaning H0 is rejected H1 is accepted. And learning with the Multiple Intelequences model is better.

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