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THE EFFECT OF PARENTAL EDUCATION LEVEL TOWARDS STUDENT BIOLOGY LEARNING ACHIEVEMENT

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Abstract

Learning achievement is very important because, through achievement, the success of the teaching and learning process achieved by students can be seen. Learning outcomes and achievements obtained by children can not be separated from the role of parents, ranging from how to accompany while studying to use their knowledge to be transmitted to their children. The level of parental education is closely related to and it influences student learning outcomes and achievement. This study aims to study the effect of parental education on biology student achievement in class XI MIA in the South Konawe Regency. This type of research is correlational The population of this research is the XI MIA grade students of South Konawe District High Schools. The sample of this study was 221 students of class XI MIA. The research instrument used a questionnaire regarding the level of parental past education while learning achievement was obtained through the results of midterm tests of biology subjects. The analysis technique used regression analysis techniques. Based on the analysis results obtained a significant value (Sig.) 0.33> (α) 0.05. It can be concluded that the level of parental education (X) does not have a significant effect on student biology learning achievement (Y).

Keywords: Parental Education, Learning Achievement

A. Introduction

Biology science education has an important role in producing quality human resources to compete in the mastery and development of technological science. Science as a product because it consists of a collection of knowledge in the form of facts, concepts, principles, and laws about natural phenomena. Science as a process, because it is a series of structured and systematic activities carried out to find concepts, principles, and laws about natural phenomena. While science as an attitude, because it is expected to be able to create a character for students based on student grades. A student already has an understanding of the concept if the student has understood the meaning or meaning of a concept. Understanding the concept of biology can be a provision for students to learn themselves and the natural environment, as well as a foundation in solving problems in everyday life (Suartika, 2013 and Putra, 2015).

Both fathers and mothers are teachers, mentors, and educators who are first and foremost in caring for their children. Learning outcomes and children's achievements are not solely the result of the learning process at school but are supported by the role of parents at home,

ranging from how to accompany while studying to utilize their knowledge to be transmitted to their children. The level of parental education is closely related to and it influences student learning outcomes and achievement. Yulianto (2011), parents who have never or lacked the opportunity to go to school usually do not encourage their children in terms of education, so that the children are less motivated to learn and get high achievements. Then Eryanto (2013), children who have educated parents usually have high aspirations and expectations for the achievements of their children. Parents will provide direct support such as helping with homework so that they can perform better than children who have parents with low levels of education. Furthermore Wulandari (2015), parents with higher levels of education make it possible to be more confident in their ability to help their children learn. The level of confidence will significantly influence the academic ability of children. The higher the level of parental education, the broader the views and insights will be, including in managing the family.

Looking at the facts, through interviews with several students, there are parents of students who have low education or are not well-educated turned out to be successful in educating their children, so that they get good learning outcomes at school. Conversely, there are also parents of highly educated students who are less successful in educating their children. It is suspected that because they are too busy working, parents also pay little attention to children. Pramaswari (2018), the level of parental education cannot be used as a benchmark whether children will be motivated to learn if parental education is high. Sometimes even though parents are poorly educated or don't even finish school, children are still motivated because they want to get a better life. This opinion, supported by Hidayat (2016) research, shows that parental education level does not significantly influence student achievement. Then also Sunain (2017), who concluded that the level of parental education has no relationship with the level of student activity and ultimately the level of activity also has no relationship with the index value of students. Thus, the level of parental education does not affect student achievement.

The study aims to study the effect of causality between variables on the level of parental education on learning achievement. The specific purpose of this study is to examine the significance of the influence of parental education levels on student achievement. The results of this study are expected to provide theoretical benefits that are expected to enrich knowledge related to parental education levels, and biology learning achievements, as well as practical benefits that contribute thoughts and input to schools to pay more attention to students by providing optimal education.

B. literature Review

1. *Parental Education Level*

The world of education requires the role of parents because parents are the main source of learning for children. The success of children in school is marked by the completeness of students in understanding and following material that has been taught in class and measured by the value of the test. To achieve this is not easy, because student success in learning is influenced by several factors. The factor here is derived from within the students themselves and from parents as motivators for students in learning (Khadijah, 2015). The factor of parents here is the level of education. With a higher level of parental education has a very important meaning for children in improving learning outcomes and achievement.

Parent's educational background influences science and the way parents guide their children to learn at home. Slameto (2013) suggests that parents are the first and foremost center of education for a child so they can determine learning success. In line with this, Puspitaningtyas (2015) states that parents are a very important element in the world of children's education. Parents play an important role in the progress of their children's education in carrying out the learning process.

Matus (2016) different levels of parental education from not completing elementary school, elementary school, junior high school, high school, and college, greatly affect student learning outcomes. Parents who have a high level of education usually have high ideals towards the education of their children. This statement is supported by Cholifah (2016) which states that highly educated parents have the opportunity and ability to obtain greater material needed to provide children learning facilities. In addition, with the knowledge possessed of highly educated parents, in general, they are being open and able to treat children positively.

Based on this explanation, it can be understood that parents who only have an elementary school education in educating their children have limited knowledge when compared to those

with junior high school education. Likewise, parents educated in senior high school, compared to parents with tertiary education, have different knowledge in educating children.

2. Learning Achievement

Learning achievement is something that is needed by students to know the abilities they get from learning activities. Learning achievement has a varied definition. According to the Big Indonesian Dictionary (2008), learning achievement is the mastery of knowledge or skills developed through subjects and indicated by test scores. Sardiman (2009) achievement is a real ability that is the result of interaction between various factors that influence both inside and outside the individual in learning. Then Mustamin (2013) learning achievement is the maximum achievement result according to the ability of students at a certain time on something that is learned, done, understood and applied. Agreeing with this, Thaib (2013) learning achievement is the result of a student's learning effort in the form of skills from academic activities in school at a certain time period that is recorded at the end of each semester in the evidence of the report.

Achievement is not only an indicator of success in certain fields of study but also as an indicator of the quality of education In general, someone who has achievements is more respected than those who do not have because achievement can elevate one's degree. Arifin (2013) states that learning achievement has several main functions, including: (1) As an indicator of the quality and quantity of knowledge mastered by students. (2) As a tendency of curiosity which is a common human need. (3) As information material in educational innovation. (4) As internal and external indicators of an educational institution. (5) As an indicator of students' absorption (intelligence).

Learning achievement cannot be separated from learning activities, because the learning process will produce achievements. There are many factors that affect learning achievement both from within the individual and from outside the individual. Purwanto (2010) and Shah (2011) internal factors influencing learning achievement consist of physiological and psychological factors. Physiological factors, namely physical and spiritual conditions. While psychological factors, namely talent, interest, intelligence, attitude, motivation, and cognitive abilities. External factors consist of environmental factors and instrumental factors. Environmental factors, namely the social environment and the natural environment. While the instrumental factors are curriculum, materials, teachers, facilities, administration, and management.

Learning achievement can be achieved by students through efforts as behavioral changes that include cognitive, affective and psychomotor domains. These three domains are part of the assessment in student achievement after participating in the teaching and learning process. Student learning achievement can only be known if an assessment of the learning outcomes has been carried out. So, achievement becomes an obligation for students, and success or failure in education depends on the learning process experienced by these students.

C. Methodology

1. *Research Design*

The research was carried out in the odd semester of the 2018/2019 school year in September 2018. It was located in a state high school in South Konawe Regency. This type of research is a correlational study that aims to collect data or information and make a comprehensive description to explain the influence and causal relationships between the variables studied. Descriptions and explanations of the effects and relationships between these variables are analyzed using a quantitative approach (Ali and Asrori, 2014).

The population in this study were all-state high schools in Konawe Selatan District, as many as 20 schools can be seen in Table 1. Based on the accreditation ranking, there are schools possesing accreditation A, B, and C, which means the levels and distribution are not the same. So the sampling used stratified random sampling, where samples were grouped based on their level, then determine the sample size at each level. Based on the table determining the number of samples by Isaac and Michael (Sugiyono, 2014), for a total population of 1193 with a 10% error level uses the sample of 221. The percentage was set for each level group to get a sample in each level group. The distribution of the sample size can be seen in Table 2.

Table 1. Research Population

No	NPSN	School name	Accreditation	Class	Amount
1	40401875	South Konawe 3 High School	A	XI MIA_1	31
				XI MIA_2	32
				XI MIA_3	35
				XI MIA_4	34
2	40401876	South Konawe 2 High School	A	XI MIA_1	34
				XI MIA_2	33
				XI MIA_3	31
		Total			230
3	40401873	South Konawe 6 High School	B	XI MIA_1	31
				XI MIA_2	33
4	40401874	South Konawe 8High School	B	XI MIA_1	31
5	40401877	South Konawe 1 High School	B	XI MIA_1	32
				XI MIA_2	32
6	40403342	South Konawe 7 High School	B	XI MIA_1	32
				XI MIA_2	30
7	40403344	South Konawe 4 High School	B	XI MIA_1	30
				XI MIA_2	31
8	40403343	South Konawe 11 High School	B	XI MIA_1	36
				XI MIA_2	34
				XI MIA_3	34
9	40403349	South Konawe 12 High School	B	XI MIA_1	26
				XI MIA_2	28
10	40403379	South Konawe 5 High School	B	XI MIA_1	27
				XI MIA_2	27
11	40404815	South Konawe 10 High School	B	XI MIA_1	33
				XI MIA_2	32
				XI MIA_3	34
12	40405054	South Konawe 19 High School	B	XI MIA_1	31
13	40405055	South Konawe 17 High School	B	XI MIA_1	35
14	40405113	South Konawe 9 High School	B	XI MIA_1	26
		Total			685
15	40405048	South Konawe 13 High School	C	XI MIA_1	32
16	40405015	South Konawe 14 High School	C	XI MIA_1	32
				XI MIA_2	26
17	40405084	South Konawe 15 High School	C	XI MIA_1	31
				XI MIA_2	30
18	40404847	South Konawe 16 High School	C	XI MIA_1	33
19	40405077	South Konawe 18 High School	C	XI MIA_1	34
				XI MIA_2	31
20	40404848	South Konawe 20 High School	C	XI MIA	29
		Amount			278
		Total			1193

Source: http://bansm.kemdikbud.go.id and school primary data

Table 2. Magnitude Distribution of Research Samples

Accreditation Group	Percentage	Sample
A	19,3%	43
B	57,4%	127
C	23,3%	51
Amount	100%	221

2. *Instrument*

The type of data in this study is nominal and interval data. The variable with nominal data is the level of parental education (X). The variable with interval data is learning achievement (Y). Data on the level of parental education (X) was obtained through a questionnaire regarding the latest education of parents with the education level of Elementary School (1), Junior High

School (2), High School (3), and Higher Education (4). The instrument model can be seen in Table 3. Data on learning achievement (Y) was obtained through the results of midterm tests of biology subjects.

Table 3. Instrument model variable level of parental education

Parental Education Level	Answer	Information
Elementary School		
Middle School		
High School		
Higher Education		

3. *Technique of Data Analysis*

Research data on parental education level and biology learning achievement will be analyzed descriptively first, then regression analysis will be performed. The significance level (α) used in this study was 0.05. Data processing uses Microsoft Excel Software and Statistical Package for the Social Sciences (SPSS) version 24. Descriptive analysis results are presented in tabular or frequency distribution. The scores on the biology learning variable are categorized into three categories: high, medium and low. Categorization is done based on Mean Ideal (MI) and Standard Deviation (SDi).

- ✓ High category = X ≥ (Mi + SDi)
- ✓ Medium category = (Mi – SDi) ≤ X < (Mi + SDi)
- ✓ Low category= X < (Mi - SDi) (Sudijono, 2014: 176).

D. Results and Discussion

1. Findings

The results of the descriptive analysis of biology learning achievement variables based on school accreditation groups can be seen in Figure 1 below.

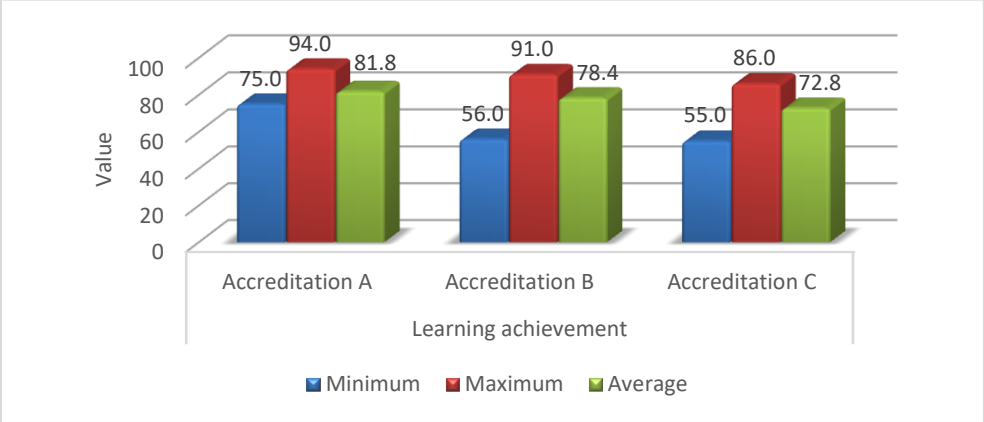

Figure 1. Graphic Description of Learning Achievement

An accredited school is the highest with an average achievement of 81.8. The frequency distribution of variable levels of parental education and student achievement based on school accreditation can be seen in Table 4 and Table 5, respectively.

Table 4. Variable Frequency Distribution of Parents' Education Levels Based on School Accreditation

Accreditation Group	Level of Education							
	Frekuensi				Persen (%)			
	SD	SMP	SMA	Sarjana	SD	SMP	SMA	Sarjana
A	9	8	14	12	20,9	18,6	32,6	27,9
B	25	23	57	22	20,9	18,6	32,6	27,9
C	11	17	19	4	21,6	33,3	37,3	7,8

Based on Table 4 it can be seen that in all accreditation groups, parents of students with high school education dominate, as many as 14 people (A), 57 people (B), and 19 people (C). Bachelor's level of education has the fewest number in the accreditation group B and C. While in the group of accreditation A the least amount is Junior High-level education.

Table 5. Frequency Distribution of Achievement Variables Based on School Accreditation

Accreditation Group	Learning Achievement					
	Frekuensi			Persen (%)		
	Tinggi	Sedang	Rendah	Tinggi	Sedang	Rendah
A	9	34	-	20,9	79,1	-
B	15	101	11	11,8	79,5	8,7
C	2	30	19	3,9	58,8	37,3

In Table 5 different things are found, namely in the accreditation group A there are only high and medium achievement categories. While achievements in the category of being dominated in all groups, namely 34 people (A), 101 people (B), and 30 people (C). The frequency of achievement in the high category was the least in the accreditation group A and C. While in accreditation B the lowest frequency was in the achievement in the low category.

The results of the regression analysis can be seen in Table 6. Based on the results of the analysis, a significant value (Sig.)> (A) 0.05 indicates that the variable level of parental education (X) did not have a significant influence on the biology learning variable (Y) both in total and in each school accreditation group. The magnitude of the influence of the variable level of parental education on student achievement can be seen in Table 7.

Table 6. Regression Analysis Results Influence of Parents' Education Level Against Achievement Studying Biology

Data Coverage	Model	Number of Squares	df	Middle Squared	F	Sig.
Total	Regression	16,266	1	16,266	0,345	0,557
	Residual	10320,965	219	47,128		
A	Regression	1,332	1	1,332	0,077	0,783
	Residual	708,528	41	17,281		
B	Regression	5,070	1	5,070	0,155	0,694
	Residual	4082,606	125	32,660		
C	Regression	1,767	1	1,767	0,024	0,876
	Residual	3542,978	49	72,306		

Table 7. Coefficient of the Effect of Parents' Education Level on Learning Achievement

Data Coverage	Independent Variable	Coefficient	Sig.
Total	Parent Education (X)	0,050	0,33
A	Parent Education (X)	0,078	0,54
B	Parent Education (X)	-0,057	0,17
C	Parent Education (X)	0,004	0,93

A diagram of the results of the analysis of the influence of parental education levels on student achievement is presented in Figure 2.

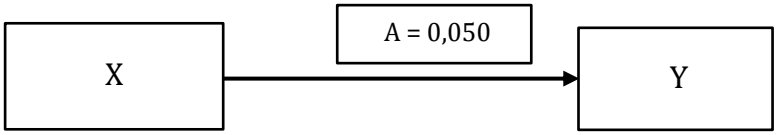

Figure 2. Influence Diagram of Parents' Education Level (X) Against Learning Achievement (Y)

2. *Discussion*

The results of the analysis of the variable level of parental education on biology achievement of class XI High School students in the South Konawe District showed that parental education level did not have a significant effect on student biology learning achievement. This means that the high or low achievements achieved by students are not caused by the level of education of

their parents. This causal relationship contradicts theoretical and empirical facts by Puspitaningtyas (2015) and Cholifah (2016), that the level of parental education makes the difference of knowledge possessed in guiding children. The higher the level of parental education, the more open and able to treat children positively. Thus, the level of parental education tends to affect learning outcomes positively and significantly.

The results of research that are contradictory to the theory and empirical facts can be caused by parental education level questionnaires that do not adequately describe parental education. Parental education in this study does not emphasize both parents of students, but one of them, whether Father or Mother. It is suspected that some students have highly educated fathers, but what they fill in the questionnaire is the education of mothers who may only have a high school education, junior high school, even elementary school, and vice versa. So that there are students who have high achievements with elementary school-educated parents. There are also students with highly educated parents who have low achievement. As well as at all levels of parental education, students with moderate categorical achievements were found. So it has not given a significant influence on student achievement. Based on the accreditation group, the variable level of parental education also did not affect learning achievement. Even in the accreditation group B, the level of parental education did not have a significant and negative effect on learning achievement. This means that the higher the level of parental education, the lower the achievement of students.

The findings in this study are not in line with some of the results of previous studies which reported that the level of parental education can contribute well in achieving good learning achievement. However, the results of this study are in line with research by Matus (2016), that the level of parental education does not significantly influence student achievement. In his research, Rebecca R. Carter, an expert in Epidemiology and Biostatistics, stated that good education is the process of developing one's skills in the form of attitudes and behavior that prevails in society. Where the social process is influenced by the environment and can achieve social skills and develop a personality. So, it can be said that the level of education of parents of students will not affect student achievement in school.

A. Conclusion

Based on the results of research and discussion, it was concluded that the level of parental education (X) did not have a significant influence on student biology (Y) learning achievement. This means that the high or low achievement achieved by students is not caused by the level of education of their parents.

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