The Influence of Family Environment and Student's Learning Interest During the Covid-19 Pandemic Period on the Learning Outcomes of Class X RPL Students in Basic Programming Subject

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Abstract. During the Covid-19 pandemic, the learning process was carried out remotely in each home using a learning platform that had been determined by the school. In the current situation to support the quality of the student learning process at home, a good family environment is needed so that students get good learning outcomes. Distance learning can also affect student interest in learning, due to the lack of interaction and lack of socialization between teachers and students, and many other factors affect student interest in learning. So the researcher wants to calculate how the influence of the family environment and student interest in learning during the pandemic period on the learning outcomes of class X RPL students of SMK Negeri 9 Malang in Basic Programming subjects. This study uses quantitative research along with correlational methods with a sample of 101 students of class X RPL SMK Negeri 9 Malang. The research data obtained comes from the results of distributed questionnaires and documentation. The data analysis used is the regression test, correlation test, T-test and F test using SPSS 25 software. From the research that has been done, the results are (1) there is an influence by the family environment on student learning outcomes with a significance value of 0.047 < 0.05 , (2) interest in learning affects learning outcomes with a significance value obtained at 0.001 < 0.05, (3) family environment and interest in learning simultaneously affect student learning outcomes with a significance value of 0.000 < 0.05.

1 Introduction

Education is very important in our life. Education is also a fundamental process to achieve individual goals and ideals. External and internal factors in students can affect the level of learning success [1]. The family environmental factor is one that is related to external factors. Family is the main environmental influence, because children first get education, care and guidance, habituation and training through the family environment.

One of the internal factors of students is interest in learning. Interest in learning greatly influences the learning outcomes that students will get, because when studying subjects that do not match their interests, students will lazy and don't even learn because they think it is not interesting so that students are lazy to learn and do not benefit from lessons that have been learned [2].

During the Covid-19 pandemic in Indonesia, the spread of the virus quickly spread
to several areas causing disruption in several sectors including the education sector. As a result, all students cannot carry out learning activities at school so that distance learning at home is applied.

One indicator of student success in the learning process is that students get good learning outcomes. Learning outcomes are the final results of a series of student learning processes during learning at school. Student learning outcomes can be influenced by many factors, such as psychological, physical, fatigue, family environment, community environment as well as the school environment [3].

Then Basic Programming subject was chosen because the learning outcomes from 10th grade of Software Engineer students had final exam scores varied from the lowest scores is 10 to the highest is 100. This subject is a basic subject that will be an introduction to the success of students in achieving the main competencies, which understands and analysis a problem, then thinks coherently (algorithms) in solving the problem then implements it in the form of a computer programming language. It is necessary to have supporting facilities to be able to study these subjects at home.

In previous research conducted by Rahmadian, it aims to measure the contribution of the family environment and online learning motivation to student learning outcomes in class XI ICT subject [4]. The results of this research are that both variables are hand in hand in influencing the learning outcomes of the students. Another research by Lee, et al., that one of their research aims to verify and understand whether students’ interest in learning in Taiwanese colleges has a positive and significant influence on learning outcomes [2]. Researcher thinks that we are the readers as a teacher or as a researcher who can put the position as anything, will have to collaborate or educate any parents in order to create a comfortable learning environment for students.

In accordance from the above, the researcher conducted a research entitled "The Influence of Family Environment and Student’s Learning Interests During the Covid-19 Pandemic Period on the Learning Outcomes of Class X RPL Students in Basic Programming Subjects" with the research subject being class from 10th grade of Software Engineer students who enrolled Basic Programming Subjects at State Vocational High School 9 Malang City 2020/2021 academic year.

2 Literature Review

There is research that has been conducted by Rahmadian, that in her research aims to measure the contribution of the family environment and online learning motivation to student learning outcomes in class XI ICT subject. Quantitative research through a correlational approach. The population of this study was all students of class XI with a total of 101 students with sampling in this study was carried out by proportional random sampling with the Slovin formula of 81 respondents. The data collection instrument used a questionnaire using a likert scale, data analysis techniques including simple regression, and multiple regression with the results was family environment contributed to learning outcomes by 34.2% [4].

Furthermore, in the second study, there was a research being carried out by Lee, et al., that one of their research aims to verify and understand whether students’ interest in learning in Taiwanese colleges has a positive and significant influence on learning outcomes with sampling was used to yield knowledge from the population of students and lecturers (or teaching staff of higher levels) at Taiwanese vocational colleges, the linear Structural Equation Modelling (SEM) was adopted to verify the goodness-of-fit effects among the overall model with the result of student’s interest in learning exerts a positive and significant effect on learning outcomes in Taiwanese colleges with a 0.46
standardised path coefficient that supports the hypotheses [2].

This research has several different characteristics from the literature review which is the source of literature, the purpose of this research is to explain how the influence of family environment variables and interest in learning on learning outcomes Class X RPL student in Basic Programming Subject at State Vocational High School 9 Malang City 2020/2021 academic year. Difference from previous research namely the researcher uses a saturated sampling technique that involves all members population to be sampled. This type of research is quantitative with using a correlational research model. The research subjects were class students X RPL for Basic Programming Subject at State Vocational High School 9 Malang City.

2.1 Family Environment

The family is the first and foremost institution [5]. The family environment is a situation that can have an influence on individual behavior because the family is the first and foremost environment for children's development, because through the environment of the family, individuals can also learn in an increasingly large environment, namely the community environment and the school where individuals learn. Therefore, the family environment has a strong influence on student development because a large amount of student life is in the family.

Indicators of the family environment can be divided into 6 parts, including how parents educate, relationships between family members, the situation at home, the economic condition of the family, the understanding of parents as well as cultural background [5].

2.2 Learning Interest

Learning interest is a feeling of being more like and more interested in something or an activity, from the students themselves [5]. This plays a very important role in the lives of students and has a big impact on behavior and attitudes. Students who have an interest in learning definitely put in more effort than students who have less interest in learning.

There are three factors that can influence interest in learning, namely factors that are in yourself or internal factors, including psychological or internal aspects such as talents and physiology or physical conditions such as health, then external factors, including the social environment, from family, friends, teachers, and society, as well as the non-social environment of the school situation, the condition of the house as well as the learning facilities that are owned and the approach factor as well as a method that can be used to boost learning improvement [6].

Indicators of interest in learning to measure student interest in learning, including feelings of pleasure, such as when a student has a happy feeling in a lesson, he will not feel forced while studying, then student interest in learning is the driving force for students to be interested in a lessons, objects, people, activities and can be in the form of affective experiences that are stimulated through these activities, then the attention of students such as students always pay attention to something that is of interest and will put aside other things, and student involvement such as students will be interested in engaging in appropriate activities with what is of interest such as students will be active in group discussions [7].
2.3 Learning Outcomes

Learning outcomes as experiences obtained by students covering the cognitive, affective and psychomotor domains [8], while according to Sukmanasa said learning outcomes is the final result value of learning achievement that is mutually sustainable between aspects of student attitudes, knowledge, and skills [9]. It can be concluded that the definition of learning outcomes is the ability students get after they learn in accordance with their experiences. A number of factors influence learning outcomes, namely internal factors, including psychological, physical, and fatigue, as well as external factors, including the family environment, the community environment as well as the school environment [5].

Regulation of the minister of education and culture number 66 discusses about educational assessment standards explaining that learning outcomes can be obtained from authentic assessments, self-assessments, portfolio assessments, exams, daily exams, midterm exams, final semester exams, competency level exams, quality level exams competence, national exams, and school / madrasah exams [10]. The assessment indicator used in this research is the semester final exam score, which is one of the assessments that the school carries out in order to measure the achievement of student competencies after one semester of learning.

3 Method

This type of quantitative research is used by researchers because this research in the research process involves many numbers, and is processed using statistical calculations. Figure 1 is a diagram of the stages of the research carried out.

![Figure 1. Research Diagram](image)

The interview activity is an initial activity to collect information from the subject teacher, homeroom teacher, and one random student. After getting an interview data, researcher designing a grid of research instrument, then after get a grid of research instrument immediately designing a research instrument based on indicator which exists. A questionnaire was used as an instrument for this research. The research instrument was in the form of a self-developed questionnaire. When the questionnaire
was finished, will be validated by expert validation in their fields of education. After that, the questionnaire was distributed.

The population of this research were 101 first year students (10th grade) of Software Engineer State Vocational High School 9 Malang City who studied Basic Programming also as the research sample. Before distributing questionnaires aimed at research samples, the questionnaires were tested first to 32 first year students (10th grade) of Computer and Network Engineering Axioo class State Vocational High School 9 Malang City who also studied Basic Programming subjects in order to measure the level of validity and reliability of the questionnaire.

The validity test intends to test whether it is valid in an instrument in research that can give what value you want to assess, for example a valid meter can be used to measure length, but it is invalid when used to measure weight [11]. The Product Moment correlation formula is used in the validity test. The reliability test is used as a reliable measuring tool, which means that when used in measuring the object more than once, the data results must be the same [11]. The Cronbach Alpha formula is used for reliability testing. After testing, there are 25 questionnaire statements with valid and reliable results so that they can be distributed to the sample.

Data analysis using descriptive statistical analysis was carried out to describe the mean, median, mode, standard deviation and variance of each variable of this research. Then before carrying out the regression test, you must perform the previous classical assumption test which includes the normality test, linearity test, multicollinearity test, and heteroscedasticity test. The partial T test and simultaneous F test were used to test the hypothesis. After that, the regression test and correlation test were carried out. Last, calculate the coefficient of determination to find how much influence the independent variable gives to the dependent variable which is represented in the form of a percentage.

4 Results and Analysis

Based on the results of data collection from the questionnaire on the family environment variable, the average value was 45.9 from a maximum value of 60 which could be categorized as good enough, then for the learning interest variable obtained an average value of 28.14 from a maximum value of 40 so that it could be categorized as sufficient good, while the average student learning outcomes is 75.93 from a maximum value of 100 so it can be categorized as quite good.

4.1 Classical Assumption Test Results

The classic assumption test is carried out with the SPSS 25 application service, which includes the normality test, linearity test, multicollinearity test and heteroscedasticity test. The classical assumption test is carried out in order to find out whether there will be a problem in the simple or multiple linear regression models.

The Kolmogorov-Smirnov formula is used in the normality test, to find out whether the data obtained is normally or abnormally distributed. The significant value of the family environment variable is 0.061, meaning that the data has a normal distribution, data from the learning interest variable with a sig. number of 0.200, and the learning outcome variable 0.181 that the data also has a normal distribution. Decision on the results of the linearity test is seen through the value of deviation linearity, if the value of deviation linearity > 0.05 is said to be the data between linear variables. The family
environment variable has a linear relationship because the deviation linearity value is 0.133 and the learning interest variable has a linear relationship and the deviation linearity value is 0.139. The multicollinearity test results obtained a tolerance value of 0.696 > 0.10 and a VIF value of 1.436 < 10, so it can be concluded that the variables researched did not occur multicollinearity symptoms. Heteroscedasticity test to find out whether there is an inequality of variance from the residuals in the regression model using the Rank Spearman test, the family environment variable was 0.602, the learning interest variable was 0.750, and the learning outcome variable was 0.696, so it was decided that the variables studied had no heteroscedasticity symptoms.

4.2 Hypothesis Test Results

The T test is used to detect the impact of the independent variable on the dependent variable.

Table 1. Partial Test Results (T test)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>t count</th>
<th>Sig. Value</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment</td>
<td>Learning Outcomes</td>
<td>2.015</td>
<td>0.047</td>
<td>H01 successfully rejected</td>
</tr>
<tr>
<td>Learning Interest</td>
<td>Learning Outcomes</td>
<td>3.357</td>
<td>0.001</td>
<td>H02 successfully rejected</td>
</tr>
</tbody>
</table>

From the test results in Table 1, the results for the first hypothesis, namely the influence of the family environment on learning outcomes have a sig value obtained 0.047 < 0.05 and the value of \(t_{count}\) of 2.015 and \(t_{table}\) of 1.98447 so that 2.015 > 1.98447 then H01 was successfully rejected, then in the second hypothesis the influence of interest in learning on learning outcomes obtained significance value of 0.001 < 0.05 and the value \(t_{count}\) amounting to 3.357 and \(t_{table}\) amounting to 1.98447 to 3.357 > 1.98447 so it was decided that H02 was successfully rejected.

In order to determine the simultaneous impact between the independent variables on the dependent variable, the F test is carried out.

Table 2. Simultaneously Test Results (F test)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>f count</th>
<th>Sig. Value</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment</td>
<td>Learning Outcomes</td>
<td>16.362</td>
<td>0.000</td>
<td>H03 successfully rejected</td>
</tr>
</tbody>
</table>

In Table 2, the third hypothesis or the influence of the family environment and interest in learning simultaneously on learning outcomes by obtaining a sig. value namely 0.000 < 0.05 and the value of \(f_{count}\) of 16.362 and \(f_{table}\) of 3.09 so that 16.362 > 3.09 then H03 was successfully rejected.

4.3 Regression Test Results

In order to obtain information on the direction of positive or negative influence between one independent variable and the dependent variable, a simple linear
regression analysis is carried out.

The explanation of what is in Table 3, namely the influence of the family environment on learning outcomes has a constant value of -28.994 which means that if the family environment score is constant then the learning outcomes are negative or decreasing with the regression coefficient value is 2.286 which means that the value learning outcomes will increase 2.286 when the value of the family environment increases by 1% and the direction of the influence of the family environment on learning outcomes is positive because the value on the regression coefficient is positive.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Constant ($a$)</th>
<th>Regression Coefficient ($b$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment on Learning Outcomes</td>
<td>-28.994</td>
<td>2.286</td>
</tr>
<tr>
<td>Learning Interest on Learning Outcomes</td>
<td>2.139</td>
<td>2.622</td>
</tr>
</tbody>
</table>

Then for the influence of interest in learning on learning outcomes it has a constant value of 2.139 which means that if the interest in learning is constant or zero then the learning outcomes are 2.139 with a regression coefficient value of 2.622 that the value of learning outcomes will increase by 2.622 if the value of interest in learning increases by 1% and also the regression coefficient value is positive, so the direction on the influence of interest in learning on learning outcomes is positive.

Then a multiple linear regression test is run to detect how the dependent variable and many independent variables are related.

<table>
<thead>
<tr>
<th>Independent</th>
<th>Dependent</th>
<th>Constant ($a$)</th>
<th>Regression Coefficient ($b$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment</td>
<td>Learning Outcomes</td>
<td>-34.223</td>
<td>1.192</td>
</tr>
<tr>
<td>Learning Interest</td>
<td>Learning Outcomes</td>
<td>1.971</td>
<td></td>
</tr>
</tbody>
</table>

The description of Table 4, a constant value of -34.223, which means that if the score of the family environment and interest in learning is constant or equal to zero, the score of learning outcomes will decrease. Then for the regression coefficient of the family environment variable is positive 1.192, that if the value of learning outcomes increases 1.192 while the value of the family environment increases by 1% in the direction of the influence of interest in learning on learning outcomes is positive. The learning interest variable has a positive regression coefficient value of 1.971, which means that when the value of interest in learning increases by 1%, the score of learning outcomes increases by 1.971 in the direction of the effect of interest in learning on learning outcomes which is positive.

4.4 Correlation Test Results

Correlation test is used in order to determine the level of relationship between variables.

Based on Table 5, the correlation value is 0.405, so according to the interpretation guidelines the correlation coefficient is concluded that the level of the relationship between the family environment and learning outcomes is in moderate level with a
positive relationship direction. Then the acquisition of the sig. number is 0.000 < 0.05, it is said that there is a relationship between family environment and learning outcomes.

Table 5. Correlation Test Results for 1st Relationship

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Sig. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment on Learning Outcomes</td>
<td>0.405</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 6. Correlation Test Results for 2nd Relationship

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Sig. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Interest on Learning Outcomes</td>
<td>0.468</td>
<td>0.000</td>
</tr>
</tbody>
</table>

From the correlation value of 0.468 which is in Table 6 and referring to the correlation coefficient interpretation guidelines, it can be said that the direction of the relationship of learning interest to learning outcomes is positive with a moderate level of relationship. Obtaining a significance value of 0.000 < 0.05, then there is a relationship between learning interest variables on learning outcomes.

Table 7. Correlation Test Results for 3rd Relationship

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Sig. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment and Learning Interest on Learning Outcomes</td>
<td>0.500</td>
<td>0.000</td>
</tr>
</tbody>
</table>

In Table 7, the correlation value obtained is 0.500 so that the level of relationship according to the guideline for interpretation of the correlation coefficient between family environment variables and learning interest simultaneously on learning outcomes is in moderate level, while obtaining a significance value of 0.000 < 0.05, so it can be said that there is a relationship between variable family environment and learning interest simultaneously on learning outcomes.

4.5 Coefficient of Determination Results

The size of the influence that the independent variable gives to the dependent variable can be seen from the $R^2$ value which is then represented in the form of a percentage.

Table 8. Calculation of the Coefficient of Determination Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Environment</td>
<td>0.164</td>
<td>16.4</td>
</tr>
<tr>
<td>Learning Interest</td>
<td>0.219</td>
<td>21.9</td>
</tr>
<tr>
<td>Family Environment and Learning Interest</td>
<td>0.250</td>
<td>25</td>
</tr>
</tbody>
</table>
Based on Table 8, it is found that the role of the family environment in influencing learning outcomes is 16.4%, while other variables not examined in this study affect the other 83.6%, then the role of learning interest variables in influencing learning outcomes is 21.9%, while the other 78.1% are influenced by other variables and the role of the family environment also learning interest in influencing learning outcomes is 25%, while the other 75% are influenced by other variables not examined in this research.

5 Conclusions

Conclusions can be drawn through the research that has been completed, that is the family environment of students from class X RPL at State Vocational High School 9 Malang City positively affects learning outcomes in Basic Programming subjects, then student learning interest in class X RPL at State Vocational High School 9 Malang City positively affects learning outcomes in Basic Programming subjects, and last, family environment and student learning interest in class X RPL at State Vocational High School 9 Malang City positively affect learning outcomes in Basic Programming subjects.

As for suggestions for further research, researchers can carry out in-depth research in order to see what other factors can influence the learning outcomes obtained by students. Then the research carried out is to measure learning outcomes through cognitive aspects only, while learning outcomes can be measured through other than cognitive aspects, namely affective and psychomotor aspects, so that further research is expected to be able to measure student learning outcomes through other than cognitive aspects only.

References

1. Al-Shuaibi, Abdulghani.: The Importance of Education. Salalah College of Technology, Qatar. 2014.