Analysis of Learning Motivation in Improving Student's Cognitive Ability with Family Socio-Economic Conditions as Moderation Variables in Public High Schools, East Kampar Sub-district

Ahmad Reski Mulia*, Rr. Sri kartikowati, Makhdalena
Economic Education Studies Program FKIP, Universitas Riau, Pekanbaru, 28293, Riau, Indonesia

ARTICLE INFO

Article history:
Received: 17 Aug 2020
Revised: 16 Jan 2021
Accepted: 19 Jan 2021
Published online: 24 Jan 2021

Keywords:
Learning Motivation
Family Socio-Economic Conditions
Students' Cognitive Ability

ABSTRACT

Learning achievement is not influenced by socioeconomic level and environmental adaptability without being mediated by other factors. One of them is learning motivation. Considering that learning motivation can strengthen or weaken the influence of various factors that affect the learning process, this study aims to analyze the effect of learning motivation in improving students' cognitive abilities with the socio-economic conditions of the family as a moderating variable in SMA Negeri in East Kampar District. The data used consists of primary data and secondary data. The data were collected using questionnaires and documents. The study population was 567 students of SMA Negeri in East Kampar District with a sample of 235 students taken by proportional random sampling. The analytical method used moderated regression analysis. The results of the study found that the learning motivation variable had a significant effect on the cognitive abilities of SMA Negeri students in East Kampar District and the socio-economic conditions of the family had a significant effect on the cognitive abilities. The socio-economic conditions of the family can strengthen the influence of student learning motivation on the cognitive abilities.

1. Introduction

The progress of a nation's civilization is greatly influenced by the quality of its education. Education has a very important place in the process of building a nation. Quality education will produce quality, superior, and competitive human resources. The achievement of student learning objectives in taking education can be seen from the potential development of students. The potential development of students can be seen from the development of their cognitive abilities. Students'
cognitive abilities are abilities related to memory for knowledge and information, as well as the development of their intellectual skills (Nurazizah et al., 2017).

Cognitive abilities with regard to intellectual learning outcomes which consist of five aspects, namely acceptance, answers or reactions, research, organization, and internalization. The division of cognitive abilities includes six levels of thought, namely evaluation, synthesis, analysis, application, understanding and knowledge, which aspects are often used to evaluate learning outcomes carried out by teachers to students which are proven and shown through the value of the test results or exams taken by students. (Loise, 2018; Hasanah, 2018).

Evaluation of learning outcomes using cognitive aspects is also used as a way of measuring student learning outcomes in SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur. Based on the data on the results of the average midterm scores of students in economic subjects for the 2017/2018 even semester period at SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur, it is known that there are still students who have not completed the Middle Semester Examination (UTS) in economics. This can be seen from the data of SMA Negeri 1 Kampar Timur where each class has a number of students who have not completed or have not reached the KKM score with an average percentage reaching 44.75%, meaning that there are still many students who have not completed the midterm exam.

The same thing also happened to SMA Negeri 2 Kampar Timur where every class there were also a number of students who had not completed or had not reached the KKM score who were also students who had not completed or had not reached the KKM score with an average percentage that had not reached 51.02%. This condition reflects that the learning process at SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur has not been maximally successful. This of course cannot be separated from the factors that influence it, both factors that come from within the student (internal) and factors that come from outside the student (external).

Learning can be said to be successful if all the specified learning objectives can be achieved. To achieve good learning outcomes, students must learn, and in learning itself there are factors that influence it, namely: motivation, attitudes, interests, study habits, and self-concept. There is a mutual influence between learning motivation, interest in learning, family environment and learning models (Sulfemi, 2019; Lastri et al., 2020)

The socioeconomic condition of the family is also one of the factors that affect learning outcomes (Fuady et al., 2016). The economic condition of the family is an external factor that can affect student learning outcomes. The achievement of learning outcomes is not only the responsibility of the school, but also parents or family. Thus student learning outcomes cannot be separated from family support, especially the role of parents. Morally, parents, either directly or indirectly, mobilize their children to have good learning outcomes and provide encouragement for optimal learning. The results of the study indicate that family
factors partially have a positive and significant effect on learning outcomes. The family factor is the closest environment for students to get education because the environment in the family has been formed since the beginning of birth in the world. Meanwhile, materially, it means that parents fulfill all useful needs to support achievement and encourage their children to be more active in learning (Wijaya et al., 2017).

The socioeconomic condition of the family (parents) has a great influence on their children's education at school. The socio-economic conditions of the family certainly have a role in the development of children, that with a sufficient economy, the material environment faced by children in their family is wider, they will have wider opportunities to develop various kinds of skills that cannot be developed if there are no tools, the tool. Children will easily follow the learning process at school, because all the supporting facilities and infrastructure of the learning process can be fulfilled by their parents. Conversely, when the socioeconomic status of the family is low, the child will experience difficulties in following the learning process at school, because the supporting facilities and infrastructure of the learning process are not fulfilled by their parents (Chotimah et al., 2017).

The socio-economic condition of the family is the driving factor for the emergence of learning motivation, which in turn can provide enthusiasm for learning. Parents' attention contributes to motivation to learn. The attention that is well received by children at home can lead to encouragement or motivation to learn well in children as well. Types of parenting style give a good contribution to learning achievement. There is learning motivation that comes from within oneself based on needs, encouragement and awareness of learning goals. Motivation to learn can also grow thanks to stimulation and pressure or pressure from outside, for example, with gifts, rewards, punishments and other gifts. Parental attention has a significant effect and contributes to learning motivation. The attention that is well received by children at home will lead to encouragement or motivation to learn that is good for children as well (Haditama et al., 2018; Anas, 2019; Efriza et al., 2020).

The socioeconomic conditions of the family can strengthen or weaken the influence of various factors on the achievement of learning objectives, including learning motivation. Students in SMA in East Kampar District, especially in SMA Negeri 1 and SMA Negeri 2, during learning there are still students who postpone assignments given by the teacher even some students during the learning process do not hasten to complete the assignments given by the teacher even though they already have facilities support the learning process, but it was also found that there were some students who had not been supported by the learning facilities they had but had high enthusiasm in doing the assignments given by the teacher. This proves that motivation can strengthen or weaken the factors that influence the learning process.

Ramadhan (2015), his research proves that the condition of the family environment is one of the factors that moderates the influence of learning
motivation on student learning outcomes in economic subjects. The family environment can be seen from the socio-economic conditions of the family. The socioeconomic condition of the family is one of the moderating variables that can strengthen the influence of learning motivation on student learning outcomes in economic subjects. Saprudin et al., (2017) stated that high learning motivation can be formed by the influence of the family environment, especially the socioeconomic conditions of parents who can support student achievement, because students with high socioeconomic conditions will have more motivation when compared to low ones they are fulfilled from facilities provided by parents so that students are able to achieve high learning achievement.

The socioeconomic condition of the family is an important factor in improving students' abilities. This result is evident from research conducted by Sah Understanding (2020), which found that family environmental factors have a significant effect on student learning outcomes. The same result was also proven by Silvia et al., (2018), the learning environment has a significant effect on learning outcomes. The learning environment is everything that is around students that can make students feel happy, safe, comfortable and motivated to learn which one of the coverage of this environment is the family environment. Arumsasi et al., (2015), prove that learning achievement cannot be influenced by socio-economic levels if there is an environmental adaptation ability that mediates these factors so that another factor is needed, one of which is learning motivation.

Based on these results, the researcher is interested in following up the learning motivation variable as a moderating variable, considering that learning motivation can strengthen or weaken the influence of various factors that affect the learning process in this case, namely the socioeconomic condition of the family because motivation is the overall driving force in a person that causes learning activities, which ensure the continuity of learning activities and which lead to direction in learning activities, so that the goals desired by individuals can be achieved.

The choice of research locations in the two schools, namely SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur was caused by several factors, including that the two schools were both public schools and seen from the location, the two schools were both in East Kampar District. In addition, students at SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur have never conducted research on the analysis of family socio-economic conditions in improving students' cognitive abilities with learning motivation as a moderating variable.

2. Methodology

This study used a quantitative approach using a correlational method to describe the relationship between the socioeconomic conditions of the family and the cognitive abilities of students with moderate learning motivation in SMA Negeri in East Kampar District. The population in this study were 567 students of SMA Negeri 1 Kampar Timur in the academic year 2017/2018, divided into two
schools, namely SMA Negeri 1 Kampar Timur and SMA Negeri 2 Kampar Timur. The sampling technique used Proposional Random Sampling. Meanwhile, determining the number of samples from the total population used the Slovin formula with a total sample of 235 people.

Hypothesis testing using statistical formulas, regression analysis methods, but first will be tested whether the data has met the requirements for analysis with this method. The hypothesis used Moderated Regression Analysis (MRA). The main focus of regression in this study was the significant coefficient index and the nature of the influence of the moderating variable interaction.

3. Results and Discussion

Based on the results of multiple regression analysis, the effect of learning motivation and family socio-economic conditions on students' cognitive abilities obtained in Table 1.

Table 1. Multiple Linear Regression

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>27,529</td>
<td>3,086</td>
<td>8,920</td>
</tr>
<tr>
<td></td>
<td>Motivation to learn</td>
<td>.518</td>
<td>.066</td>
<td>.424</td>
</tr>
<tr>
<td></td>
<td>Family Socio-Economic Conditions</td>
<td>.618</td>
<td>.079</td>
<td>.420</td>
</tr>
</tbody>
</table>

Table 1 shows the regression equation for the value of 27.529, indicating that if the variable learning motivation and the socioeconomic conditions of the family are constant or zero, the value of the student's cognitive ability variable is 27.529. While the value of β1 = 0.518 shows that if the learning motivation variable increases by 1, the student's cognitive ability variable will increase with amounting to 0.518 units with the assumption of constant family socioeconomic conditions. The value of β2 = 0.618 shows that if the variable of family socioeconomic conditions increases by 1, the variable of student cognitive abilities will increase by 0.618 units, assuming that the student learning motivation variable is constant.

The learning motivation variable is proven to have a partial effect on students' cognitive abilities as evidenced by the sig value of 0.000) <0.05. This means that the learning motivation variable has an effect on students' cognitive abilities. The same results also showed that the sig (0.000) <0.05 was proven to have a partial effect on the cognitive abilities of the students. This means that the family socioeconomic variables affect students' cognitive abilities.

Table 2 shows that the value of the XZ coefficient (learning motivation * family socioeconomic conditions) is 0.020 and the significance is 0.028, so the XZ
interaction variable is significant because it is greater than 0.05 and it is concluded that the family socioeconomic condition variable is able to moderate the relationship between learning motivation and cognitive abilities.

**Table 2. Analysis of Moderated Regression Analysis (MRA)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>66.642</td>
<td>17.901</td>
<td>3.723</td>
<td>.000</td>
</tr>
<tr>
<td>Motivation to learn</td>
<td>-.172</td>
<td>.318</td>
<td>-.141</td>
<td>-.542</td>
</tr>
<tr>
<td>Family Socio- Economic Conditions</td>
<td>-.547</td>
<td>.531</td>
<td>-.371</td>
<td>-1.029</td>
</tr>
<tr>
<td>X.Z</td>
<td>.020</td>
<td>.009</td>
<td>1.217</td>
<td>2.218</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Students’ Cognitive Ability

The moderation classification for the moderation variable in this hypothesis is classified as pure moderator or potential moderator because the sig b2 value of 0.475 is also greater than 0.05 and the sig b3 value of 0.037 is greater than 0.05, which means the interaction variable between learning motivation and social conditions family economy is significant, but the moderating variable (socioeconomic conditions) does not function as a predictor variable but directly interacts with other predictor variables (learning motivation). Thus it can be concluded that the variables of the students’ socioeconomic conditions in this study proved to be a moderating variable.

**Table 3. Summary of Regression Equations**

<table>
<thead>
<tr>
<th>Regression Equations</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y = a + b₁X₁ + b₃X₂ + ∈</td>
<td>0.752</td>
<td>0.566</td>
<td>0.562</td>
</tr>
<tr>
<td>Y = a + b₁X₁ + b₂X₂ + b₃X₁X₂ + ∈</td>
<td>0.758</td>
<td>0.575</td>
<td>0.569</td>
</tr>
</tbody>
</table>

Table 3 shows the value of R² in the first regression test is 0.566 or 56.6%, while after the second regression equation, the value of R² has a significant increase or a value of 0.575 or 57.5%. From these results, it can be concluded that the socioeconomic conditions of the family can moderate the effect of learning motivation on students' cognitive abilities.

**Effect of Family Learning Motivation on cognitive abilities**

Based on the data analysis and hypothesis testing conducted in this study, the results showed that there was a significant influence between student learning motivation and cognitive abilities. This is evidenced by the significance value of student learning motivation on students' cognitive abilities of 0.000 because (p) <0.05, then at an error level of 5% the pathway is significant.

The results of this study are also in accordance with the research of Naziah et al., (2020), not all students have the motivation to learn. Motivation is a way of
increasing student achievement. Motivation is the factors that exist within a person that moves, directs his behavior to fulfill certain goals.

Students who have low motivation, will not be resilient in dealing with problems including being easily discouraged, there is no desire for students to excel, the absence of student independence in learning and a lack of willingness to master the subject matter can result in not being able to fully master the material provided which is only will reduce cognitive abilities but other aspects, such as skills in mastering subject matter including attitudes in the learning process.

The findings in the field of learning motivation that can be seen from family learning motivation are that most students with high learning motivation will be active in trying, appear courageous, do not want to give up, and read actively to improve their cognitive abilities. On the other hand, students who have low motivation to learn can be seen from their lack of tenacity in dealing with problems and are more likely to give up and choose to give up when facing problems, so that this condition causes no independence in learning resulting in no desire to explore the material provided by the teacher, which resulted in low ability to master the material. Motivation to learn becomes a driving force for individuals who are able to direct actions and choose learning goals that are most useful for their lives. Motivation is the driving force within the subject to carry out certain activities to achieve goals (Junita et al., 2018).

So it can be concluded that the presence or absence of student behavior, whether or not learning in the family environment depends on how children are raised and educated in the family environment (Efriza et al., 2020). Students who are highly motivated to learn are likely to obtain high learning outcomes, meaning that the higher the motivation, the more intense the effort to increase success in learning so as to achieve satisfactory success as expected. Besides that, motivation also supports efforts and keeps the student learning process going. This makes students persistent in learning.

The Influence of Family Socioeconomic Conditions on Cognitive Abilities

Based on the data analysis and hypothesis testing conducted in this study, the results show that there is a significant influence between the socio-economic conditions of the family on cognitive abilities. This is evidenced by the probability value of family socioeconomic conditions on students' cognitive abilities of 0.000 because (p) <0.05, then at the 5% error level the pathway is significant.

This is in accordance with the research of Utomo et al., (2018), on class XI students of SMK Kristen 1 Surakarta in the 2017/2018 academic year, it shows that the socioeconomic status of parents has an influence on cognitive entrepreneurial learning outcomes. The contribution of parents' socioeconomic influence on cognitive learning outcomes is 79%, while students are influenced by other factors outside of these variables. Students who come from families with
high socioeconomic conditions will be able to achieve higher cognitive abilities than students who come from middle and low family environments.

The results of this study are also in line with previous research conducted by Saprudin et al., (2017), in his research proving that there are direct and indirect effects of parents' socio-economic conditions on learning achievement of Social Sciences. Furthermore, in the research of Harun et al., (2014), which states that the background of the socioeconomic status of students 'parents affects students' social studies learning outcomes.

The findings in the field of the socio-economic conditions of the family can be seen from the level of parental education, parents 'occupation, parents' income, property ownership and social position in the community. With the latest level of education, the parents are on average high school and equivalent and both parents work even though only as entrepreneurs and farmers. This is consistent with some of the studies above where when the socioeconomic status of a family is stable and sufficient, this will affect the thinking ability of their children in school. In other words, the socio-economic conditions of this family will affect parental support in the form of fulfilling learning facilities that will be used by their children in the teaching and learning process so as to improve cognitive abilities.

**The Influence of Learning Motivation on Students' Cognitive Ability Moderated by Family Socio-Economic Conditions**

The socio-economic conditions of the students' families in Kampar District are related to the level of education of their parents, parents' jobs, parents' income, ownership of assets and social position in the community. Based on research conducted by Yarnefi et al., (2019), it was found that the family environment was able to influence student learning motivation.

The researcher concluded that the socio-economic conditions of the students' families could be a trigger in influencing the relationship of motivation in increasing the cognitive abilities of students of SMA Negeri in East Kampar District. The reason the researchers conclude that socio-economic conditions can be a factor that can boost the emergence of a good enthusiasm for learning because socio-economic conditions are low, especially when having high socio-economic conditions will provide encouragement so that it creates a stronger learning motivation. High motivation to learn can be encouraged even though students are in a well-off family condition, as well as when students are able to be facilitated by their families and added to the high motivation to learn can streamline the teaching and learning process so that it can improve students' cognitive abilities.

The research data is also supported by the Ramadhan Research Journal, (2015), explaining that the condition of the family environment is one of the factors that moderates the influence of learning motivation on student learning outcomes in economic subjects, this result is in line with the research of Saprudin et al., (2017) This proves that high learning motivation can be formed by the influence of the
family environment, especially the socio-economic conditions of parents who can support student achievement, because students with high socioeconomic conditions will have more motivation than those who are low, they will be fulfilled from the facilities provided by their parents, so that students are able to achieve high learning achievement.

This was also supported by some of the data obtained by researchers through personal questions. The factors that support the level of motivation to learn are not only from extrinsic factors of students (school environment, family, community and peers), but can come from themselves which can be called intrinsic factors. The research approach that gives personal questions to students who are in a family environment where their family's socioeconomic conditions are low but have high learning motivation so that some students come from low-economic families can beat students who come from wealthy, wealthy families in terms of scientific achievements or extra-curricular achievements in the curriculum for learning activities of SMA Negeri in East Kampar District.

Students who come from low-economic families have their own motivation, that is, they want to experience a higher education than their parents, so that with high education they think they can get a job that is more decent, comfortable and can produce. Sufficient money or salary so that they can make their parents happy and live properly in society.

This sense of desire was born from problems, the experiences of their parents that had been told to the students, also felt that life was difficult, so that the urge to have high motivation in terms of learning appeared in students and they assumed the way the only thing for them to change their lives in the future is by having high motivation to learn, achieving and having a high education too. Naziah et al., (2020), stated that teachers at school with parents of students are factors that play a role in influencing students.

In the factors that influence the status of an individual, family or group, there is a statement that a high level of education can make an individual, family, or group into a high social status. This means that students who have a background of low family socioeconomic conditions certainly want to improve their own status and their families through education, according to these students if we have high education, then we will get decent work, large wages and from there they can. mobilization of their status from initial low to intermediate or there could be a shift in high status groups.

4. Conclusion

Learning motivation has a significant effect on the cognitive abilities of students in Kampar District. The better the student's motivation, the higher the student's cognitive abilities. The socio-economic conditions of the family have a significant effect on the cognitive abilities of students in the Kampar District. The better the socioeconomic conditions of the family, the higher the cognitive abilities of
students. The socioeconomic condition of the family can strengthen the influence of student motivation on cognitive abilities of students in SMA Negeri in East Kampar District. The higher the student's motivation to learn can improve students' cognitive abilities even though the socioeconomic conditions of the family are low, as well as the high socioeconomic conditions of the family, both situations are proven to strengthen the influence of learning motivation in increasing cognitive abilities. The socioeconomic condition of the family is indeed one of the extrinsic factors of students who are able to provide a semnagat encouragement to increase motivation to continue to want to learn, excel or want to experience education, although it does not rule out that there are other factors that can also improve students' cognitive abilities.

Acknowledgment

Researchers would like to thank SMA Negeri 1 and SMA Negeri 2 in Kampar Timur District, Kampar Regency, Riau Province (Indonesia). Researchers also express their gratitude to all who have helped in the data acquisition process for this research.

References


International Conferences on Educational, Social Sciences and Technology, 789-798


How to cite this article: