Karacter Disiplin dan Karakter Religius: Pengaruhnya terhadap Kemampuan Numerik Peserta didik

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Abstrak


Kata Kunci: karakter disiplin, karakter religius, kemampuan numerik peserta didik

Discipline Character and Religious Character: The Effect on Students’ Numerical Ability

Abstract

Numerical abilities and educational character are very important in learning mathematics at school, some of the student characters that must be considered are disciplinary and religious characters. This study aims to determine the effect of students’ disciplinary and religious character on numerical ability. This study uses survey research methods with descriptive research types with survey techniques. The population used in this research is all SMP/MTs/equivalent in North Lampung for the 2020/2021 academic year. The sampling technique used in this study was the cluster random sampling technique, so that MTs Negeri 1 North Lampung and MTs Negeri 2 North Lampung were obtained as samples. Three classes were taken from each school as a sample consisting of representatives from class VII, VIII and IX. The instruments used in this study were a numerical ability test and a disciplinary character questionnaire and a religious character. Data analysis technique using Multiple Linear Regression analysis. Based on the results of the analysis, it was found that the influence of the disciplinary character of the religious character on students’ numerical abilities was very strong, amounting to 73.6 percent. The results of the regression equation analysis show Y = 32.586 + 0.286X₁ + 0.368X₂. This equation shows that every 1 increase in the disciplinary character variable will affect the numerical ability variable by 0.286. Likewise, for the coefficient of the religious character variable, it will affect the numerical ability variable of 32.586.

Keywords: discipline character; religious character; students’ numerical ability
INTRODUCTION

Education is very important in producing quality Human Resources, so that the progress or failure of a country is influenced by educational factors (Manan, 2017; Maskur et al., 2020; Rahmawati et al., 2021; Syazali et al., 2021). One element of education that plays an important role in realizing educational goals is the curriculum (Siregar et al., 2019). The curriculum will form education as expected. The curriculum is an experience and a set of learning activity plans to be carried out by students in order to achieve certain educational goals (Sukmadinata, 1997). The 2013 curriculum is known as a curriculum based on student character and competence. The 2013 curriculum will form creative, affective, innovative, productive and noble generations through skills, knowledge and attitudes. The implementation of the 2013 curriculum makes learning in class very interesting because students are required to be more active in the knowledge being taught (Agussalim & Ahmad, 2018).

Education is the main factor in the formation of quality character in relating, behaving, acting, and thinking. It is determined by the spirit, values and goals of education (Siregar et al., 2019). The formation and cultivation of character is very important to determine how a person behaves. The human character that has been attached to his personality will be shown through his behavior in everyday life. Character also refers to a series of attitudes, behaviors, motivations and skills (Aeni & Nurhidayat, 2019). Therefore, education has an important role in influencing one's abilities (Permanasari & Pradana, 2021).

The development of a child's character certainly cannot be separated from the role of parents, because it is necessary to provide good character education, if parents are wrong in educating children it can be fatal in child development (Sari, 2019). The role of the teacher at school is also very important in providing good character education. Therefore, cooperation between parents and teachers is very important in shaping children's character. Quality character is important to be taught from an early age (Mufliha et al., 2018). Because, it is at this age that children can easily receive various information quickly. So that what is obtained in children will be well received and applied in everyday life. Character is the personality, character, and habits possessed by individuals who are relatively fixed (Irfan, 2020).

Students must have character values, namely being religious, disciplined, loving cleanliness and the environment, caring, honest, and loving the motherland. One of the places to instill character in children is at school. Everything students do during the mathematics learning process must be based on a religious attitude which aims to form intelligent and noble students (Sholikhahut & Sutama, 2021). According to A. Kurniaawan & Agustang (2021), Student discipline is influenced by factors in the family environment, social environment, community environment, and school environment. The discipline applied in each of these environments has an impact on the growth of a good personality. Especially in the school environment, aspects of student discipline consist of five indicators, namely doing schoolwork at home, preparing for school needs at home, the attitude of students in class, the presence of students, implementing rules at school.

Mathematics education can be seen as a condition or trait and even values that are synergistic with character education (Pertiwi & Marsigid, 2017). Character development in learning mathematics in schools can emphasize interpersonal skills and respect individual differences in both ability and experience. religious, honest, tolerance, discipline, hard work, creative, independent, democratic, curiosity, courtesy, friendly or communicative, love peace, love to read, care for the environment, care for social, responsibility. Character education can be integrated into subjects at school, including mathematics (Amelia et al., 2022; Dewi, 2015). Mathematics is education about how a student solves existing problems. Mathematics is an effort to prepare students related to the character of discipline (Sugiana & Sofyan, 2019; Ubaidillah & Efendi, 2022). This shows that mathematics is very important to learn (Mainake et al., 2021).

It is important to apply character education so that students are not only superior in cognitive abilities but also mature in controlling their emotions. One of the existing cognitive abilities is numerical ability. Ability is a skill, ability, potential or skills possessed by a person. Mathematical ability can be measured by deduct, problem, arithmetic, series, and numeric (Rinaldi, 2015). Numerical is something that has the form of numbers or numbers, which is related to counting and is used to store values in the form of numbers. Numerical ability is a process of learning mathematics that cannot be separated from
numbers or numbers and symbols (Amin, 2016). Numerical abilities are fundamental in our society (Vigna et al., 2022). Numerical ability is very important to possess by students in learning mathematics (Huda et al., 2020) and one element that must be mastered in mathematics (Haspini et al., 2020). So it can be concluded that numerical ability is an ability related to speed, accuracy, skill, accuracy, and one’s intelligence in arithmetic and one’s potential to solve problems related to numbers including the operation of numbers, basic arithmetic, number series, algebra.

School is a strategic place for character education because children from all walks of life receive education at school (Musyawir, 2022). Character building in schools is carried out by a teacher, therefore a teacher must play a good role in behaving, because students will imitate what their teacher does. In addition, students must also have spiritual intelligence, intellectual intelligence, and emotional intelligence, even though intelligence is needed for students, of course character education is prioritized for students. Therefore, students who have intelligence without being balanced with a character are not enough to achieve maximum learning outcomes.

Based on the results of interviews conducted by researchers with Curriculum Deputy Head and local teachers in the field of mathematics studies, stated that teachers at the junior high school level had adapted learning tools to the 2013 curriculum. The 2013 curriculum requires students to learn actively in class. However, the implementation of the curriculum has not been effective at the junior high school level. Students still have to get an explanation from the teacher about the material being taught in the learning process in class, especially in mathematics learning. Some material can be explained with learning media to support the knowledge and character development of students. In addition, based on the results of the Mid Semester Odd exam for class VIII at one of the junior high school levels in the 2018/2019 school year, it was found that out of a total of 91 students, only 20 students scored above the minimum passing criteria. This proves that the implementation of the 2013 curriculum has not been effective, and students are not used to being independent and have low numerical skills when working on math problems.

Based on the results of Ahsanulhak research, (2019), he stated that the formation of the religious character of students had been successfully carried out by habituation and exemplary (Perseverance) through several activities at school. The research results of Retno Wulan Ningrum et al also stated that the disciplined character of students can be formed through scout extracurricular activities which in their activities emphasize persistence (Ningrum et al., 2020). Discipline character and religious character will make students have persistence in learning. Perseverance in learning is needed to improve numerical abilities. According to (Eva, 2019), numerical ability includes accuracy, perseverance and tenacity in working on questions. This shows that religious character and discipline have a fairly close relationship with numerical abilities.

Several studies and research on character education have been carried out, including the implementation of the development of the diversity of students (Setiawan et al., 2020), Implementation of religious values in developing the character of students (Asgoni, 2019), Describe religious character education through classroom learning (Azis, 2019), Educational Relations in the family environment with the character of students (Purba et al., 2020), Implementation of habituation-based strategic management in cultivating the religious character of students (Nurhadi, 2020), Build the character of students through local wisdom (Mansur, 2020), Implementation of education management program student Islamic character building in improving the religious character of students (Kholiq, 2020). In addition, numerical ability has also been studied before, that numerical ability can be influenced by the pair check learning model (Melani et al., 2019), contextual learning (Lestari, 2019), and audio-visual learning media in the form of cartoon dictations (Hermawan et al., 2019).

From existing research, no one has examined the influence of disciplinary character and religious character on numerical ability, so this is an element of novelty in this study. Based on the learning outcomes of students, the results of interviews, and the results of previous research, this study aims to see the effect of the disciplinary character and religious character of students on students’ numerical ability.
METHOD

This research uses quantitative research with a descriptive approach. The population used in this study is all SMP/MTs/equivalent in North Lampung for the 2020/2021 academic year. The sampling technique used is the Cluster Random Sampling technique. The samples used in this study were students at MTs Negeri 1 North Lampung and MTs Negeri 2 North Lampung for the 2020/2021 academic year. Three classes were taken from each school as a sample consisting of representatives from class VII, VIII, and IX. The samples from MTs N 1 North Lampung were class VIIA, VIIIA, and IXC, each class consisted of 29 students. The samples from MTs N 2 North Lampung, namely class VIIA, VIIIA, and IXE, each class consisted of 30 students.

The independent variable (X) in this study is the discipline character (X₁) and religious character (X₂) while the dependent variable in this study is numerical ability (Y). Data collection techniques used in this study were tests, questionnaires, and observations. The test given to students is in the form of essay questions to measure students' numerical ability towards the material provided. Numerical ability tests are assessed according to the scoring criteria presented in table 1.

Table 1. Criteria for Scoring the Numerical Ability Test

<table>
<thead>
<tr>
<th>Score</th>
<th>Student Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No answer or misinterpreted</td>
</tr>
<tr>
<td>1</td>
<td>The answers mostly contain wrong calculations</td>
</tr>
<tr>
<td>2</td>
<td>The answers are incomplete, and contain incorrect calculations</td>
</tr>
<tr>
<td>3</td>
<td>The answer is almost completely correct, the use of the algorithm is complete and correct, but there are a few errors</td>
</tr>
<tr>
<td>4</td>
<td>Complete answers and do the calculations correctly</td>
</tr>
</tbody>
</table>

The disciplinary and religious character questionnaire was given to the students, while the observations about assessing the disciplinary and religious character of the students were filled out by the teacher. The research questionnaire instrument used the Likert scale presented in table 2.

Table 2. Likert Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Statement</th>
<th>Positive Items</th>
<th>Negative Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
<td>Strongly agree</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Don't agree</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Neutral</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Agree</td>
<td>Don't agree</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Strongly agree</td>
<td>Strongly Disagree</td>
<td></td>
</tr>
</tbody>
</table>

The instruments that have been made are tested for validity (content validity test and construct validity test), reliability test, differential power test, and level of difficulty test. After going through the validation test, 10 numerical ability test questions were obtained and 27 disciplinary character questionnaire statements and 26 religious character questionnaire statements. Then proceed with the classic assumption test in the form of Normality Test, Heteroscedasticity Test, Multicollinearity Test, and Autocorrelation Test. If you have met all the assumptions needed, then proceed with the Hypothesis Test. The hypothesis test consists of the Coefficient of Determination Test ($R^2$) and Simultaneous Multiple Linear Regression Test.

RESULTS

Statistical requirements carried out in multiple linear regression analysis based on Ordinary Least Squares (OLS) are classical assumption tests. The classic assumption test in this study consists of the Normality Test, Heteroscedasticity Test, Multicollinearity Test, and Autocorrelation Test. The first classic assumption test is the normality test. The normality test has the goal of finding out whether the
residual values are normally distributed or not, because a good regression has residual values that are normally distributed or close to normal, so the normality test is carried out on residual values not on variables. The statistical test used to test normality is the Kolmogorov-Smirnov test. The Kolmogorov-Smirnov test results can be seen in table 3 below.

Table 3. Kolmogorov-Smirnov test results

<table>
<thead>
<tr>
<th>Unstandardized Residual</th>
<th>N</th>
<th>177</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Parameters&lt;sup&gt;a,b&lt;/sup&gt;</td>
<td>Mean</td>
<td>0.000000</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>3.82423858</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
<td>Absolute</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>-0.059</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov Z</td>
<td>.827</td>
<td></td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.501</td>
<td></td>
</tr>
</tbody>
</table>

Based on table 3, the significance value or p-value of the residual value is 0.501, it can be concluded that the Sig value. > 0.05 (H<sub>0</sub> accepted), so it can be concluded that the data is normally distributed. The second classic assumption test is the Heteroscedasticity Test. The Heteroscedasticity Test has the objective of seeing whether in the regression there is an unequal variance from the residuals of one observation to another. It is said to be heteroscedasticity if the variance from the residual of one observation to another is different, if it remains then it is called homoscedasticity. The statistical test used in the heteroscedasticity test is the scatterplot graph.

![Heteroscedasticity Scatterplot](scatterplot.png)

Figure 1. Heteroscedasticity Scatterplot

Based on Figure 1, it can be seen that the points spread randomly and are spread both above and below the number 0 on the y axis. So it can be concluded that there is no heteroscedasticity in the regression model in this study. Because there is no heteroscedasticity, the Multicollinearity Test is continued. The multicollinearity test has the objective of knowing whether or not there is a relationship between the independent variables (X) in a multiple linear regression. Multicollinearity test results are presented in table 4 below.
Discipline Character and Religious Character: The Effect on Students'...

Table 4. Multicollinearity Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>32,586</td>
<td>3,513</td>
<td>9,277</td>
</tr>
<tr>
<td>Discipline</td>
<td>.286</td>
<td>.040</td>
<td>.413</td>
</tr>
<tr>
<td>Religious</td>
<td>.368</td>
<td>.046</td>
<td>.455</td>
</tr>
</tbody>
</table>

Based on the tolerance value for both the disciplinary and religious characters of the students in table 4, the tolerance value is > 0.10. So it can be concluded that there is no multicollinearity in the data studied. This result is supported by the VIF (Variance Inflation Factory) value, both disciplinary and religious characters get VIF < 10.00. So that there is no multicollinearity of the data studied.

Then the autocorrelation test was carried out. The autocorrelation test indicates that there is one or several variables that affect the dependent variable which are not included in the regression model. Autocorrelation test results are presented in table 5 below.

Table 5. Autocorrelation Test Results

<table>
<thead>
<tr>
<th>Student Sample</th>
<th>df</th>
<th>dU</th>
<th>DW</th>
<th>4 – dU</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>2</td>
<td>1.7769</td>
<td>1.875</td>
<td>2.2231</td>
</tr>
</tbody>
</table>

Based on table 5, the Durbin Watson (DW) value is 1.875. This value shows that dU < DW < 4 – dU, so H₀ accepted that there is no autocorrelation. After all the classical assumption tests have been carried out with the results all fulfilling, then the next process is to carry out the Hypothesis Test. The hypothesis test begins with knowing the Coefficient of Determination (R²). The Coefficient of Determination (R²) a tool that can measure the size of a percentage of ability to influence the independent variable on the dependent variable. Determination Coefficient (R²) Results are presented in table 6 below.

Table 6. Determination Coefficient (R²) Results

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.736</td>
<td>.542</td>
<td>.537</td>
<td>3.846</td>
</tr>
</tbody>
</table>

In table 6, the R square value is 0.542 or 54.2%. So the magnitude of the influence of discipline and religious variables on numerical ability is 54.2%. The disciplinary and religious character of students has a strong influence on their numerical abilities. It can be seen from the R column of 0.736 or 73.6%. After getting the result of the Coefficient of Determination (R²), then proceed with the Simultaneous Multiple Linear Regression Test. This test aims to determine the effect of the independent variables or independent variables in the regression model that have a joint or simultaneous effect on the dependent variable or dependent variable.

Table 7. Simultaneous Linear Regression Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3046,137</td>
<td>2</td>
<td>1523,068</td>
<td>102,959</td>
<td>.000</td>
</tr>
<tr>
<td>1</td>
<td>Residual</td>
<td>2573,965</td>
<td>174</td>
<td>14,793</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5620,102</td>
<td>176</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on table 7, a p-value of 0.000 is obtained, where the p-value < 0.05 so H₀ rejected and H₁ accepted. Then there is the influence of disciplinary and religious characters simultaneously on students' numerical abilities. So it can be concluded that the character of discipline and religion simultaneously
influence numerical abilities, both for MTsN 1 North Lampung students and MTsN 2 North Lampung students.

DISCUSSION

The results of this study are similar to the results of Anekawati & Sayyida's, (2020) research entitled "Multiple in the influence of Genre Effects of Emotional Intelligence and Intellectual Intelligence on Learning Achievement" that Intellectual Intelligence (Figure Ability, Verbal Ability and Numerical Ability) has a significant effect on student achievement. The effect of emotional intelligence and intellectual intelligence on male student achievement is different from the influence of emotional intelligence and intellectual intelligence on female student achievement. Another study, namely Sibasopait's, (2018) research entitled "Emotional, and Spiritual Intelligence on Performance Through Job Satisfaction of Education Personnel at the Jember University Central Office" shows that intellectual intelligence (figurative, verbal and numerical abilities) has a positive and significant effect on job satisfaction and performance. and the latest research from Kurniawan, (2021) entitled "The Effect of Using Student Daily Journals on Increasing the Habituation of Religious Character and Discipline" that using student daily journals has a significant effect on increasing the habituation of disciplinary character and Religious character.

The multiple linear regression equation model is obtained, namely $Y = 32,586 + 0.286 X_1 + 0.368 X_2$. This equation shows the $X_1$ coefficient of 0.286, which means that every increase of one $X_1$ variable (discipline character) will increase or affect the $Y$ variable (numerical ability) of 0.286. Likewise for the $X_2$ coefficient of 0.368, it means that for every increase of one variable $X_2$ (religious character) it will affect the $Y$ variable (numerical ability). Then a constant of 32.586 means that if $X_1$, $X_2 = 0$ then $Y = 32.586$.

The formation of character becomes important to determine the way a person behaves and behaves. Thus, the current process of learning activities must look at the implementation of character education. Character is a way of thinking and behavior of every individual who has psychological, moral or ethical characteristics that can distinguish one person from another by seeing it in everyday life. Characters that must be possessed by a student are discipline and religious character. This character is one of the indicators of the 2013 curriculum.

Discipline is a character inherent in a person that can be used as self-control. Discipline is self-control that encourages and directs all efforts to be able to achieve something good. Discipline in learning can improve the ability in a person. Based on the explanation above, it appears that the numerical ability in this study can be influenced by the disciplinary character of students.

In addition to the character of discipline, religious character is also a character that must be possessed by students, this is in line with the goals of national education which states that "education seeks to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent and become a democratic and responsible citizen". Religious character is a character that shows behavior based on conscience beliefs, manifested in the quantity and quality of worship as well as norms governing relationships with God, relationships with fellow human beings, relationships with the environment that are internalized in humans.

Examples of religious characters in this study are speaking politely, saying greetings, starting and ending learning with prayer, respecting religion and the holidays of each religion, and being responsible for their obligations as students, namely learning. Students' sense of responsibility for learning will have an impact on increasing the abilities of students. One of his abilities is numerical ability. Based on the explanation above, it appears that the numerical ability in this study can be influenced by the religious character of students.

This is also supported by previous research which has examined the religious character of students, namely the implementation of developing the diversity of students (Setiawan et al., 2020), the implementation of religious values in developing student character (Asghoni, 2019), describing religious character education through classroom learning (Azis, 2019), the implementation of habituation-based strategic management in cultivating religious character of students (Nurhadi, 2020),
Build the character of students through local wisdom (Mansur, 2020), Implementation of education management program student Islamic character building in improving the religious character of students (Kholiqa, 2020).

Based on the explanation above, numerical ability in this study can be influenced by 2 characters, namely disciplinary character and religious character. It can be seen in the simultaneous test results that the p-value = 0.000< 0.05, then the students' numerical abilities can be influenced by the disciplinary character and the religious character of the students.

CONCLUSION

Based on the data described above, the conclusion that can be drawn is that there is an influence of disciplinary and religious characters on students' numerical abilities. The influence of disciplinary character and religious character on numerical ability is very strong, which is equal to 73.6%. The results of the analysis using the regression test proved that the regression equation obtained Y = 32.586 + 0.286 X₁ + 0.368 X₂. This equation shows the X₁ coefficient of 0.286, which means that every increase of one X₁ variable (discipline character) will increase or affect the Y variable (numerical ability) of 0.286. Likewise for the X₂ coefficient of 0.368, it means that for every increase of one variable X₂ (religious character) it will affect the Y variable (numerical ability). Then a constant of 32.586 means that if X₁, X₂ = 0 then Y = 32.586.

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