The Effect of Parental Attention on Learning Outcomes in Elementary School Students

Tri S. Susiani, Laely R. Amalia, Moh Salimi, and Muna Fauziah

ABSTRACT

This study aims to determine the positive and significant influence and the magnitude of the effective contribution of parental attention on mathematics learning outcomes in elementary school students. This quantitative research employed the correlation method. The research samples were 260 public elementary school students in the Central Java, taken by cluster random sampling. Research data were collected by distributing questionnaires and test instruments. The data were then analyzed utilizing the SPSS version 25 application. From the regression analysis performed, the t-count value was 8.909 ≥ t-table of 1.969, and the Sig. was 0.000 ≤ 0.05. It indicates that parental attention had a positive and significant effect on students' mathematics learning outcomes. In addition, the correlation analysis results obtained r-count = 0.485 > r-table (df = 260) = 0.121, with an effective contribution value of 23.5%. Thus, it is concluded that there was a significant influence and effective contribution of parental attention on the learning outcomes of public elementary school students in the Gebang Sub-district, Purworejo Regency.

Keywords: Elementary School, Learning Outcomes, Mathematics, Parental Attention.

I. INTRODUCTION

Education is an effort to form a superior and quality generation, which is carried out consciously and deliberately so that the potential possessed can develop optimally and the desired goals can be achieved (Pieter, 2019; Suchyadi et al., 2020). Education is also a need for every human being as a basis for opening windows of knowledge so that the abilities, talents, and potentials possessed within can develop. In the world of education, elementary school is the most basic level of formal education in Indonesia. According to Wuryandani et al. (2014), elementary school education is the first level of formal education, determining the direction of students' potential development. In the learning process, students learn various subjects, one of which is mathematics. Mathematics is one component of a series of subjects with an important role in education. Mathematics is also used to solve problems and train logical, critical, and creative thinking (Yayuk et al., 2010). In this case, someone will find it easy to solve problems with the help of mathematics because mathematics provides truth based on logical reasons (Jumadi, 2018).

However, in Indonesia, the mastery level of mathematics is still relatively low. The quality of education in Indonesia is below that of other countries globally. It corroborates with Rozqa et al. (2020)’s statement that, based on the Program for International Student Assessment (OECD, 2019) survey results, it was proven that Indonesia was ranked for the assessment of mathematics mastery ability 73rd out of 79 PISA participating countries. Furthermore, from the 2015 Trends in International Mathematics and Science Study (TIMSS) results, Indonesian students were ranked 45th out of 50 countries (Fauziah et al., 2020). Another study revealing the low mathematics achievement of Indonesian students could be seen in the survey results from the National Center for Education in Statistics (National Center for Education in Statistics) of 41 countries in learning mathematics, where Indonesia was ranked 39th. It aligns with the observations made by the researchers at several public elementary schools in Gebang Sub-district, Purworejo Regency, on January 10-12, 2022. It was uncovered that for students' mathematics learning outcomes at the end of semester assessment in the odd semester in the 2021 academic year, only 16 of 38 fourth-grade students met the minimum mastery criteria. The minimum mastery criteria score given to mathematics subjects was 70, meaning that 57% had not completed the minimum mastery criteria.

In this case, the success or failure of a person in learning is due to several factors influencing it. Sobur (2006) revealed that the factors impacting children's learning consist of two:
endogenous (internal) and exogenous (external) factors. Endogenous factors come from within the individual, such as physical and psychological factors, whereas exogenous factors originate from outside the individual, such as family, school, and environmental conditions around the individual.

One external factor affecting student learning outcomes is the family, especially parental attention. The success of learning achieved by children must be supported by good parental attention. Parental attention is the concentration of parents on children, which causes increased activity, especially in meeting the children’s needs, both physical and non-physical (Rini, 2016). In addition, attention, affection, and material provided to children must be done in a balanced way. Providing comfortable learning facilities will also encourage students to be more enthusiastic about learning and achieve optimal performance. Besides, there needs to be good attention related to children's learning activities. Further, parental attention to children's learning activities at home has an essential meaning in increasing children's enthusiasm for achieving optimal learning outcomes (Mawarsih et al., 2013).

In this regard, the success of children's learning must be supported by parental attention, both psychologically and the fulfillment of learning facilities.

Nevertheless, not all the attention given is a good influence on the children. The parental attention from one individual to another is certainly different. According to Mawarsih et al. (2013), parental attention carried out continuously to assist children will lead to children’s lack of independence. In addition, indifferent attention, which does not care about children's learning activities, needs, and others, makes children feel neglected in the family, so children tend to be quiet, and a sense of laziness arises in learning activities.

On the other hand, the role of parents will foster children’s enthusiasm to obtain optimal learning outcomes (Rarasanti et al., 2021). Furthermore, Sandy et al. (2017) argued that a child's success in learning is also determined by how much parents pay attention to their child's education. With this attention, the learning enthusiasm will grow in children.

Several similar studies have been conducted by previous researchers, but some differences exist. Likewise, Lestari and Suwarnsito (2020) explored the influence of parents on learning achievement. In their research, the student interest in learning and parental attention variables were combined, while this study only focused on parental attention. Then, other studies also investigated information about the contribution of parental attention to students' learning motivation (Nofrizal et al., 2020). In that study, they used a quantitative descriptive approach. As with this research, this research employed a quantitative approach with the correlational method. In line with that, Angraini et al. (2018) studied data on the effect of facilities, parental attention, and student motivation on student learning outcomes. Their research was carried out at the high school level, whereas this research was conducted at the elementary school level.

From the many differences, it is evident that this research does not have much in common with other studies, so it is interesting to examine. Therefore, this study aims to determine the effect of parental attention on students' mathematics learning outcomes and the magnitude of the contribution of parental attention to mathematics learning outcomes in fourth-grade students at public elementary schools in the Gebang Sub-district, Purworejo Regency.

II. MATERIALS AND METHOD

A. Research Design

This quantitative research used the correlation method. The analysis was carried out by regression analysis. Regression analysis was conducted to measure the influence of the independent variables on the dependent variable and predict the dependent variable with the independent variables (Priyatno, 2012). This method was chosen since the researchers wanted to know the effect of parental attention on the mathematics learning outcomes of fourth-grade elementary school students. Hence, the most appropriate method was a correlation.

B. Sample of Research

The population of this research was all fourth-grade students at public elementary schools in Gebang Sub-district, Purworejo Regency, in the 2021/2022 academic year, totaling 596 students. However, the research sample was only 260 students from 12 elementary schools, randomly selected by the cluster random sampling technique. This technique implementation was assisted by applying Statistical Product and Service Solution (SPSS) version 25.

C. Data Collection Technique

Furthermore, the research data collection technique employed questionnaires and tests. The instrument used was a parental attention questionnaire, with indicators providing tutoring, advice, motivation and appreciation, meeting children's needs, and supervising children. Meanwhile, the questions used were elementary school grade IV mathematics questions about polygons, perimeter and area of flat shapes (squares, rectangles, and triangles), and squares and square roots in even semesters. The prerequisite test for this research data utilized normality and linearity tests. After meeting the prerequisites, the data were analyzed using correlation and regression tests.

III. RESEARCH RESULTS

The research was conducted by giving parental attention questionnaires and mathematics questions to fourth-grade students at public elementary schools as the research samples. In this study, the prerequisite test of the data was fulfilled, in which the data were normally distributed, and the data were linear. Meanwhile, the normality test results can be seen in Table I.

<table>
<thead>
<tr>
<th>TABLE I: NORMALITY TEST RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Sample Kolmogorov-Smirnov Test</td>
</tr>
<tr>
<td>Unstandardized Residual</td>
</tr>
<tr>
<td>N = 260</td>
</tr>
<tr>
<td>Normal Parameters (a,b)</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Absolute</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
</tr>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Test Statistic</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
</tr>
<tr>
<td>a. Test distribution is normal</td>
</tr>
<tr>
<td>b. Calculated from data</td>
</tr>
<tr>
<td>c. Lilliefors Significance Correction</td>
</tr>
</tbody>
</table>
In this study, a significance value of 0.054 > 0.05 was obtained, so it can be interpreted that the residual value was normally distributed. Therefore, it can be concluded that the significance values of the two variables were greater than 0.05, so the data came from a normally distributed population. To see the linearity test results more clearly, the analysis results are presented in Table II.

Based on the linearity test results, the value of Sig. deviation from linearity was 0.740 ≥ 0.05. Hence, it can be concluded that H0 was accepted, or there was a linear relationship between mathematics learning outcomes and parental attention. After the data analysis prerequisite test was met, the hypothesis test was conducted. The hypothesis testing results with regression analysis about parental attention on mathematics learning outcomes are displayed in Table III.

Based on the regression test carried out, the correlation/relationship (R) value was 0.485, with an r-table of 0.121; r-count = 0.485 > r-table (df = 260) = 0.121. It means that Ho was rejected, or there was a positive correlation between parental attention and the fourth-grade students’ mathematics learning outcomes variables. Furthermore, the correlation coefficient of 0.485 indicated a moderate relationship (coefficient interval of 0.40-0.599) between the parental attention and mathematics learning outcomes variables. Meanwhile, the coefficient of determination (R Square) of 0.235 signifies that the contribution of learning motivation to mathematical learning outcomes was 0.235 × 100% = 23.5%. Then, the data analysis results of the regression coefficient are shown in Table IV.

In Table IV, the constant (a) value was 25.512, while the learning motivation value (b/regression coefficient) was 0.582. A simple linear regression equation model was obtained from the table above: \( Y = 25.512 + 0.582X \). It denotes that each increase in the parental attention score (X) by one unit will also affect increasing mathematics learning outcomes (Y) by 0.582, and the positive sign (+) in the regression equation illustrates a positive influence between the parental attention and the mathematics learning outcomes variables. Again, this study aimed to determine the effect of parental attention on mathematics learning outcomes for fourth-grade elementary school students in the Gebang Subdistrict, Purworejo Regency, in the 2021/2022 academic year. Based on the output above, the significance value of the parental attention variable was 0.000 < 0.05, and the t-count value of 8.909 ≥ t-table of 1.969, so Ho was rejected, and Ha was accepted. In other words, there was an influence of parental attention on the mathematics learning outcomes of fourth-grade elementary school students in the Gebang Subdistrict, Purworejo Regency, in the 2021/2022 academic year. The magnitude of the influence of parental attention on mathematics learning outcomes was calculated using effective contribution analysis. Before calculating the effective contribution, it was necessary to calculate the coefficient of determination (R²) and relative contribution (SR). The coefficient of determination in this study used Equation (1):

\[
KP = R^2 \times 100\%
\]

Description:
\[ KP = \text{Coefficient of determination in percent} \]
\[ R^2 = \text{Coefficient of determination} \]

\[
KP = (0.485)^2 \times 100\%
\]

\[
KP = 0.235 \times 100\%
\]
Based on the above calculations, the coefficient of determination was 23.5%, with a coefficient of determination of 0.235. After knowing the value of the coefficient of determination ($R^2$), the next analysis was to find the relative contribution. The relative contribution in this study used Equation (3):

$$SR = \frac{b_{E_{xy}}}{JK \text{ reg}} \times 100\%$$

(3)

Description:
- $SR$ = Relative contribution
- $B$ = Regression coefficient
- $JK \text{ reg}$ = Sum of squares regression

The researchers employed regression analysis with the SPSS version 25 application to find the $b$ and $JK \text{ reg}$ values and the MS. Excel application to find the number of $xy$. The $\Sigma xy$ calculation result was 7870.923. The regression analysis results of the $JK \text{ reg}$ value are described in Table V.

Based on Table IV and Table V, the $JK \text{ reg}$ value was 4582.415, and the $b$ value was 0.582. Thus, the relative contribution could be found using Equation (4):

$$SR = \frac{b_{E_{xy}}}{JK \text{ reg}} \times 100\%$$

(4)

$$SR = \frac{0.582 \times 7870.923}{4582.415} \times 100\%$$

$$SR = 100 \times 100\%$$

$$SR = 100\%$$

The next analysis looked for effective contributions. From the above calculation, the $SR$ value was 100%, and $R^2$ was 0.235. Hence, SE could be found using Equation (5):

$$SR = (SR) \times R^2$$

(5)

$$SR = 100\% \times 0.235$$

$$SR = 23.5\%$$

The effective contribution of parental attention to mathematics learning outcomes was 23.5%, while other factors influenced 76.5%. Based on the research and calculations described above, it is known that parental attention influences mathematics learning outcomes.

IV. DISCUSSION

The study results provided information that there was a positive correlation between parental attention and students' mathematics learning outcomes. These results agree with the research conducted by Sumiyati et al. (2017), showing that the parental attention variable directly affected mathematics learning outcomes. It was indicated by the magnitude of the influence of parental attention on mathematical learning outcomes, which was 0.106 or 10.6%. Moreover, Wijoyo and Suendarti (2021) found a significant effect between parental attention on the sociology learning achievement of public senior high school students in South Jakarta. It was proven by obtaining the value of Sig. 0.000 < 0.05 and the t-value = 2.368. In addition, the contribution of attention to sociology learning achievement was 5.89%. The higher the parental attention, the higher the student's learning achievement. The results of this study are also strengthened by research carried out by Arigiyati (2017) that there was a positive and significant relationship between parental attention and mathematics learning achievement, as indicated by the Sig. value of 0.007 <0.05 and having a positive partial correlation coefficient of 0.277.

A study carried out by Anwar (2020) also stated a positive and significant effect of parental attention on mathematics learning outcomes for grade VII public junior high school students in Mattiro Sompe Sub-district, where the r-count value was 0.630 > r-table = 0.2442, and the value of Sig. 0.00 < 0.05. Meanwhile, Handayani's (2016) research revealed no significant effect of parental attention on mathematics learning achievement variables. It was indicated by the value of t-count = -0.056 and sig. of 0.955 > 0.05. According to the existing theoretical synthesis, the attention given by parents varies between individuals. Related to that, indifferent attention, which does not care about children's learning activities, children's needs, and others, will make children feel neglected in the family so children tend to be quiet and lazy in learning activities.

Furthermore, parental attention to children's learning activities has an important meaning in increasing children's enthusiasm for achieving optimal learning outcomes (Mawarish et al., 2013). Handayani (2016) also asserted that attention would give colors and patterns and even the direction of one's behavior, where a person will get a picture of possible stimuli that will arise in response to problems or circumstances presented to him. In addition, Ambarwati (2018) found that parental attention had a positive and significant impact on student achievement in learning and on student motivation (Haikal & Usman, 2019).

Based on the description above, the results of this study are consistent with existing theories and are also supported by relevant research so that it can be concluded that there was a significant and positive effect of parental attention on the mathematics learning outcomes of fourth-grade public elementary school students in Gebang Sub-district, Purworejo Regency, in the 2021/2022 academic year.

V. CONCLUSION

Based on the study results, it can be concluded that parental attention had a positive and significant effect on mathematics learning outcomes for fourth-grade elementary school students in Gebang Sub-district, Purworejo Regency, in the 2021/2022 academic year, and the effective contribution of parental attention to students' mathematics learning outcomes reached 23.5%, while other factors influenced 76.5%.

However, the research results obtained still experienced obstacles as limitations during the study. Some of these limitations are that this study only focused on the content of mathematics lessons. Not only that, but this research can only be generalized to the Purworejo area. However, the data may not apply to other areas, such as Kebumen, Wonosobo, Kulon Progo, and surrounding areas.

Therefore, future researchers are advised to conduct research with various genres of subject matter. In addition, as of now, elementary schools have implemented integrated learning. It is interesting for further research, and wider areas can be selected, such as the Kedu Residency. Thus, the findings obtained will be more comprehensive.
ACKNOWLEDGMENT

The researcher would like to thank Sebelas Maret University as the facilitator of this research activity.

CONFLICT OF INTEREST

All authors do not have any conflict of interest.

REFERENCES

OECD. (2019). Programme for International Student Assessment (PISA) Results from PISA 2018. OECD.

Tri Saptuti Susiani lives in Kebumen and was born in Purworejo, November 21, 1959. Tri Saptuti Susiani completed her undergraduate education at the Semarang State University, Indonesia, in 1984 with a major in education. Then, he continued his postgraduate education, Yogyakarta State University, Indonesia in 2004 in the field of technology and vocational education.

Currently, he is working as a Lecturer at Sebelas Maret University, Surakarta, Indonesia in the primary school teacher education study program. He has done a lot of research and community service. The last research entitled “Development of Student Workbooks in Thematic Learning in Elementary Schools” in 2022 was funded by Sebelas Maret University. He also engages in community service activities. Some of his service titles include “Training for Writing Scientific Papers for Publications for Principals and Elementary School Teachers in Bonorowo District, Kebumen Regency” “Assisting the Implementation of Scientific Approaches to Develop Pedagogic Competencies of Elementary School Teachers in Kebumen District”; and “Profile of Student Ecoliteracy Ability at Adiwiyata School”.

Tri Saptuti Susiani, has several publications published in 2021. Some of the titles are “Training in making interactive learning media based on macromedia flash in Indonesian language learning for elementary school teachers in Petanahan District” which was published in the Empowerment Community Journal and the article title “Impacts Implementation of the School Literacy Movement on Students’ Attitudes at SD N I Pandowan” published in Education, Research Journals and Educational Articles.