Eduvest – Journal of Universal Studies
Volume 4 Number 8, August, 2024
p- ISSN 2775-3735- e-ISSN 2775-3727

The Influence of the School Library on Mathematics Learning Achievement of Grade III Students in the First Trimester at Escola Básica Central 3º Ciclo Vasco da Gama Manatuto in the 2014 Academic Year

Antonio Guterres[1], Bernardino de Castro[2], Tonico de Jesus[3]
Post-Graduation, Department Of Education Management, Institutu Superior Cristal, Timor Leste
Email: antonioguterres85@gmail.com

ABSTRACT

The library is one of the contributing factors or a supporting tool in the educational process at schools, ranging from elementary to higher education levels. A school library is any library organized within a school, where it is essential to have books that support and serve as references for students, both to enhance their knowledge and to complete assignments given by their teachers, as books are the repository of knowledge. Therefore, a library fundamentally enhances its existence and students' interest in learning because, with a school library, students can learn independently and in line with the development of Science and Technology. Based on the context above, the author formulated the following problems: (1) Is there an influence of the school library on the mathematics learning achievement of Grade III students in the first trimester at Escola Básica Central Vasco Da Gama Manatuto in the 2014 academic year? and (2) Do students who utilize the library perform better in mathematics than those who do not use the library in Grade III during the first trimester at Escola Básica Central Vasco Da Gama Manatuto in the 2014 academic year? To address these problem formulations, the researcher conducted a population study of 112 and a sample study of 56 students. The prerequisite analysis results showed that the research data were normally distributed and linearly patterned, so the primary analysis used parametric statistics. The statistical test used was simple correlation with a determination coefficient of 36.72%, which means that the contribution of school library utilization to mathematics learning achievement is 36.72%, and the remaining 63.28% is influenced by other factors. The analysis results for the first hypothesis showed that the t-value was greater than the t-table value, or 5.598 > 2.006, indicating a significant influence

How to cite: Antonio Guterres et al. (2024). The Influence of the School Library on Mathematics Learning Achievement of Grade III Students in the First Trimester at Escola Básica Central 3º Ciclo Vasco da Gama Manatuto in the 2014 Academic Year. *Journal Eduvest*. *4*(8), 6844-6849
E-ISSN: 2775-3727
Published by: https://greenpublisher.id/

of school library use on mathematics learning achievement for Grade III students in the first trimester at Escola Básica Central Vasco da Gama Manatuto, in the 2014 academic year. The analysis results for the second hypothesis also showed that the t-value was greater than the t-table value, or 2.91 > 2.007, indicating a difference where students who utilized the school library performed better in mathematics than those who did not utilize the school library in Grade III during the first trimester at Escola Básica Central Vasco da Gama Manatuto, in the 2014 academic year. Based on the research results and data analysis, the author suggests the following: (1) It is hoped that students or learners can maintain and utilize the facilities available in the school library, especially books and other collections deemed very useful to support the teaching and learning process; (2) The government of the Democratic Republic of Timor-Leste, especially the Ministry of Education, should give serious attention to school libraries from kindergarten to higher education levels so that they can help students learn independently; and (3) Librarians should serve visitors, especially students, with a cheerful and open heart.

KEYWORDS *Mathematics Learning Achievement, Utilizing School Library*

INTRODUCTION

Education can be simply understood as the human effort to develop personality in accordance with societal norms and culture. Therefore, regardless of how simple a society's civilization is, an educational process takes place because education has been present throughout human civilization. Essentially, education is a human effort to preserve life. It can be seen as an essential activity that enables complex modern societies. This educational function undergoes a specialization process through formal education, which remains connected to informal education. Schools, as education centers, were conceived and developed from the ideas of efficiency and effectiveness in providing education. Schools are established by and for their surrounding communities. They are formal education centers responsible for delivering education and are inextricably linked to their environment. The progress or decline of a school is influenced by several components, including facilities that significantly affect it, such as:

The library, which is one of the factors or supporting tools in the educational process at schools, ranging from elementary to higher education levels. According to Daryanto (1985: 7-8), "Library buildings, school libraries, laboratories, and others are always organized by the school from kindergarten to high school levels to support the teaching and learning process at the school." Furthermore, according to Muljani A. Nurhadi, M.Ed (1983: 9), "A school library is any library organized in a school, whether at the elementary or secondary level, to support the teaching and learning process in the school." Library users are not only students in the 9th grade at EBC but range from kindergarten to higher education levels. The school library is an essential

educational facility that supports educational needs, enhancing students' comprehension and reasoning skills, and assisting with other tasks assigned by teachers. A good school is one that provides books that meet the learning and teaching needs of its students. Therefore, recently, libraries have become more active and can enhance their existence because, with a school library, students can learn according to the development of Science and Technology (IPTEK). Libraries are highly anticipated by everyone. The government is expected to take this seriously so that students can keep up with developments according to their daily life needs. Hence, education is one of the primary fields of development carried out by the government through environments and facilities that support the ongoing developmental process.

The issues that arise from the assumption about school libraries include:

1. There is no special staff handling the library seriously by the government.
2. Limited budget for procuring other reading materials.
3. Libraries are not well-utilized by everyone.
4. Lack of reading interest among students in the library.
5. Few students borrow books from the library.

According to Herman Hudojo (1976: 96), “The essence of learning mathematics concerns ideas, structures, and their relationships, which are arranged logically. Thus, mathematics deals with abstract concepts. Mathematical truths are developed based on logical reasoning.” Achievement is the result achieved or the work produced by an individual after performing or completing a particular activity, including teaching and learning activities. Therefore, learning achievement is the final result obtained by students from the teaching and learning process in a school environment, whether formal or informal.

Based on the above theory, the author can conclude that, in essence, mathematics is an abstract science, dealing with ideas and structural concepts that are logically interconnected. Based on the assumptions outlined above, the researcher is interested in conducting research titled "The influence of the school library on mathematics learning achievement of grade iii students in the first trimester at escola básica central 3º ciclo vasco da gama manatuto in the 2014 academic year.”

RESEARCH METHOD

Population and Research Sample

Efforts to achieve in the results of this study, the total number of population taken was 112 from the total students of grade III Escola Básica Central 3º Ciclo Vasco da Gama Manatuto, while for the total sample of researchers it can be explained that based on the opinion of Gasperz Vincent (1991: 5) the research sample is "a collection of sampling units selected from a population." In the concept of a set, a sample is a subset of a population. Thus to determine the number of samples can be explained by Surahlamad in his book Riduwan (2004: 65) that: "If the population size is approximately more than 100 then sampling is at least 50% of the population size.

When the population size is equal to or more than 1000, the sample size is expected to be at least 15% of the population and the sample can be formulated as follows:

$S = 15\% + \frac{1000 - n}{1000 - 100} .(50\% - 15\%)$", based on this, the total sample in this study was 56 students.

Data Collection Methods

Data collection methods are crucial stages in research. The data collected will be used to test the hypotheses proposed in the study. To obtain data in this research, the researcher used several data collection methods, including documentation and questionnaires.

Data Analysis Techniques

To understand the results of this research based on the existing background, the researcher explained that the data analysis techniques used in this study involved validity and reliability tests. The validity test was performed by correlating the instrument item scores with the total variable scores, where the item variable score is X and the total variable score is Y. An instrument item is considered highly valid if the item score aligns with the total score. This alignment can be understood as correlation. To measure the validity of the instrument, the researcher used the Product Moment Correlation formula, as follows:

$$\text{r } hitung = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{\{n\sum X^2 - (\sum X)^2\}\{n\sum Y^2 - (\sum Y)^2\}}}$$ *….Riduwan(2010:110*

As for the internal reliability test using the alpha formula in the form of a questionnaire, with the scale used in this study ranging from 1 – 5, as follows:

$$\text{r}_{11} = \left(\frac{k}{k-1}\right).\left(1 - \frac{\sum st}{st}\right)$$ ……..(Riduwan 2010 : 125)

The prerequisite tests carried out in this study are normality tests, regression linearity tests and main statistical tests through simple correlation tests and further tests with T-tests.

RESULT AND DISCUSSION

The construction of EBC Vasco da Gama Manatuto School was established in the Indonesian era in 1983 on an area of 150 m2. However, the operation of the teaching and learning process in 1984 under the name SMP N I Manatuto. After Timor-Leste separated from Indonesia, this school received rehabilitation from Portuguese troops with its warship named VASCO DA GAMA, so that this school was named Pre-Secundaria VASCO DA GAMA MANATUTO. Based on Diploma Ministerial no.17/2011 and Decreto lei no.7/2011 concerning Estabelecimento Integrado Ensino Basico (EIEB), the School was renamed Escola Basica Central or EBC Vasco da Gama Manatuto. EBC is in charge of 2 (two) EBFs, namely EBF Aiteas and EBF Rentau.

Based on the results of tabulation and data analysis, it can be discussed as follows: The questionnaire that the author prepared as many as 10 question items and tested in an institution equivalent to EBC 30 CicloVasco da Gama by producing 5 valid

question items and five others invalid so they were not used in research, of the five valid question items were 2, 4, 5, 6 and 10 were tested for reliability by showing that the five items were reliable so that they could be used as research instruments, for the results of student respondents to the questionnaire showed that there were 57.14% who could use the school library and the remaining 42.86% of students who could not use the school library, while for the results of a simple correlation analysis showed an r coefficient of 0.606 which means there was a positive relationship from students who used the school library has a relatively **strong** correlation with mathematics learning achievement.

Determining Coefficient (KP) = r2 x 100% = $(0.606)^2$ x 100% = 0.3672 x 100% = 36.72% which means the magnitude of the influence or contribution of the use of school libraries on mathematics learning achievement, and the remaining 63.28% is influenced by other factors, the calculation results for the formulation of the first problem show tcalculate > ttable or 5.598 > 2.006 which means there is a significant influence on the use of school libraries on mathematics learning achievement, So it can be concluded that the calculation results for the formulation of the second problem show a tcalculate of > ttable or 2.91 > 2.007 which means that there are students who use the school library whose mathematics learning achievement is better than mathematics learning achievement that does not use the school library.

CONCLUSION

Based on the calculation results of questioner results and trimestral exam results grade III trimestre I Escola Basica Central Vasco da Gama Manatuto, the 2014 academic year shows that: 1. The r coefficient of 0.606 means that there is a positive relationship between students who use the school library has a **strong** correlation with mathematics learning achievement in grade III students in the first trimester of Escola Basica Central Vasco da Gama Manatuto, 2014 academic year. 2. Determining Coefficient (KP) = 36.72% which means the amount of influence or contribution from the use of school libraries on mathematics learning achievement, and the remaining 63.28% is influenced by other factors. 3. The calculated value > ttable or 5.598 > 2.006 which means that there is a significant influence on the use of school libraries on mathematics learning achievement in grade III students of the first trimestre Escola Basica Central Vasco da Gama Manatuto, Academic Year 2014. 4. The calculated value > ttable or 2.91 > 2.007 which means that there are students who use the school library whose mathematics learning achievement is better than mathematics learning achievement that does not use the school library in grade III students of the first trimestre of Escola Basica Central Vasco da Gama Manatuto, 2014 academic year.

REFERENCES

Ahmadi, Abu dan Joko. Strategi Belajar – Mengajar, Pustaka Setia, Bandung,1997.

Suharsimin Arikunto, Prof. Dr.,Prosedur Penelitian, Edisi V, Rineka Cipta, Jakarta, 2002.

Abdurrahman Mulyono, Dr. *Pendidikan Bagi Anak Berkesulitan Belajar;* Edisi Kedua, Rineka Cipta, Jakarta, 2003.

Alwi Hasan, *Kamus Besar Bahasa Indonesia;* Edisi Ketiga, Balai Pustaka, Jakarta, 2005.

Agib Zainal , Profisionalisme Guru dalam Pembelajaran, Insan Cendekia, Surabaya,2002.

Djamarah Bahri Syaful, Drs. *Prestasi Belajar dan Kompotensi Guru;* Cetakan Kesatu, Usaha Nasional, Surabaya, 1994.

Riduwan, M.B.A, Drs. *Metode dan Teknik Penyusunan Tesis;* Alfabeta Bandung, Cetakan I, Bandung, 2004.

Sugiyono, Dr. *Statistika untuk Penelitian;* Cetakan Kelima, Alfabeta, Bandung, 2003.

MM.Pd S.Th Tu'u Tulus, *Peran Disiplin Pada Perilaku dan Prestasi Siswa*, Penerbit PT. Grasindo Anggota IKAPI, Jakarta 2004

Nurdjaman,Progo, Metode Penelitian Sosial (terapan dan Kebijakan), Badan Penelitian dan pengembangan departemen dalam negeri dan otonomi daerah Republik Indonesia, Jakarta, 2000