



The Relationship Between Qur'an Memorization Ability and Mathematics Learning Outcomes of 11th Grade Student at MA Putri Al-AAiziyah in the 2023/2024 Academic Year

Astina Lusi Rahmawati^{1*}, Arjudin², Tabita Wahyu Triutami³, Nurul Hikmah⁴

¹ Mathematics Education Study Program, FKIP, University of Mataram, Mataram, Indonesia

DOI: <https://doi.org/10.29303/geoscienceed.v5i4.477>

Article Info

Received: 01 October 2024

Revised: 18 October 2024

Accepted: 29 October 2024

Correspondence:

Phone: +6285337609648

Abstract: This study examines the relationship between the ability to memorize the Qur'an and the mathematics learning outcomes of 11th-grade students at MA Putri Al-Aziziyah in the 2023/2024 academic year. Memorizing the Qur'an requires a high level of concentration, which also plays a role in enhancing brain performance. When brain cells are utilized positively and actively, brain performance improves, making students who are accustomed to memorizing the Qur'an tend to have better cognitive function. This research is a correlational study with a quantitative approach, involving 63 samples from a total of 170 students. Data was collected through oral tests and interviews and analyzed using the Pearson product-moment correlation. The results indicate that both mathematics learning outcomes and the ability to memorize the Qur'an are very good. The data shows that 57.14% of students have memorized 1-10 juz, 14.28% have memorized 11-20 juz, and 28.58% have memorized 21-30 juz. Based on the data analysis, a significance value of $0.042 < 0.05$ was obtained, indicating a positive relationship between the ability to memorize the Qur'an and mathematics learning outcomes, with a correlation value of 0.257, signifying a weak relationship between the two variables.

Keywords: Qur'an, Memorization Ability, Mathematics Learning Outcomes

Citation: Rahmawati, L. A., Arjudin, Triutami, W. T., & Hikmah, N. (2024) The Relationship Between Qur'an Memorization Ability and Mathematics Learning Outcomes of 11th Grade Student at MA Putri Al-AAiziyah in the 2023/2024 Academic Year. *Jurnal Pendidikan, Sains, Geologi dan Geofisika (GeoScienceEd)*, 5(4), 858-864. doi: <https://doi.org/10.29303/geoscienceed.v5i4.477>

Introduction

The Qur'an is the word of Allah SWT, containing miracles, revealed to Prophet Muhammad SAW through the angel Jibril AS. It is written in the mushaf and narrated in a mutawatir way, making it an act of worship for those who read it, starting from Surah Al-Fatihah and ending with Surah An-Nas (Assegaf, 2020). Memorizing the Qur'an is a noble activity. It involves committing the Qur'an to memory, ensuring accuracy in both memorization and recitation, while diligently and continuously maintaining it to prevent forgetfulness (Maimun, 2017).

According to the Arabic-Indonesian dictionary, Qur'anic memorization originates from the Arabic term *حَفِظَ - يُحَفِّظُ - تُحَفِّظُ*, which means to preserve, protect, and memorize (Yunus, 1973). In the Indonesian dictionary, the word "memorize" means to have something ingrained in memory (like a lesson) and to be able to recite it by heart without looking. Syaikh Al-Makki Al-Nasr mentioned, "Indeed, memorizing the Qur'an by heart is a communal obligation (Fardhu Kifayah)" (Firdaus & Wiyono, 2019).

Similar to other learning processes, there are supporting and inhibiting factors in memorizing the Qur'an. Supporting factors include: 1) Proper

Email: astinalusirahmawati9@gmail.com

preparation, 2) Motivation and stimulus, 3) Age, 4) Time management, 5) Intelligence and memory potential, and 6) Environment conducive to memorization. Inhibiting factors include: 1) Lack of interest and talent, 2) Insufficient motivation, 3) Sin and misdeeds, 4) Frequent health issues, and 5) Age (Sutisna, 2023).

The benefits of memorizing the Qur'an include achieving success in this world and the hereafter, improving memory and sharp thinking, motivating higher achievements, developing good identity and honesty, fluency in speech, and the ability to intercede for family members (Muslih, 2023). Memorizing the Quran has several indicators. Below is Table 1, which outlines the indicators for Quran memorization.

Table 1. Assessment of the ability to memorize the Qur'an

No	Aspects	Indicator
1	Fluency	Accuracy of memorized sentence structure Fluency in reciting sentences
2	Tartil	Articulation of letters (Makharijul Huruf) Attributes of letters (Sifatul Huruf) Rules of letters (Ahkamul Huruf) Prolongation and shortening (Mad Wal Qashar)
3	Fasahah and Etiquette	Waqf and the Innovation Adding or Subtracting Letters Changing the line (harakat)

The process of memorizing the Qur'an requires high concentration, similar to studying. High concentration levels can be linked to optimal brain performance. According to M. Ngalim Poerwanto, when brain cells are continuously activated and utilized positively, they become stronger (Maimun, 2017). Learning is a mental activity aimed at achieving a positive, lasting behavioral change through practice or experience, affecting both physical and psychological aspects (Setiawan, 2017).

Learning outcomes are what students achieve after receiving learning experiences, observable through their performance, often represented by scores or grades (Pantiwati et al., 2016). According to Bloom's Taxonomy, learning outcomes are achieved through three domains: 1) Cognitive (remembering, understanding, applying, analyzing, evaluating,

creating); 2) Affective (receiving, responding, valuing, and characterizing by value); and 3) Psychomotor (motor skills, manipulating objects, connecting, and observing). There are two main factors influencing learning outcomes: internal and external (Wulandari, 2023). Internal factors include: 1) Physiological (health and physical condition), and 2) Psychological (intelligence, interest, motivation, and study habits). External factors include family, school environment, and societal conditions (Leni & Sholehun, 2021)

According to the results of observations at Madrasah Aliyah Putri Al-Aziziyah out of a total of 170 students in grade XI (eleven), there were 101 students who managed to achieve scores above the Minimum Completeness Criteria (KKM), there were 61 students who obtained scores below the KKM and the remaining 8 students met the KKM in the Odd Akhkir Sesemter Assessment (PAS) for the 2023/2024 school year. Based on the results of interviews with teachers, it was concluded that there are still many obstacles and difficulties experienced by students during the learning process, one of which is difficulty understanding and remembering the lessons delivered by the teacher. However, the teacher emphasized that students who have a close relationship with the Qur'an have a different grasp and memory from other friends. This is assumed that these students have been trained in reading and memorizing the Qur'an.

This is in accordance with the opinion of Dr. Shalih bin Ibrahim Ash-Shani, professor of psychology at Al-Imam bin Saud Al-Islamiyah University, Riyadh explained that reading and memorizing the Qur'an can be healthy, increase memory, avoid senile diseases, increase intelligence, increase faith, increase religious and general knowledge, become an argument in the current war of thoughts, as a motivator, have good psychological calm and stability (Muslih, 2023). Based on Rusman's theory, learning to memorize is a mental activity, namely memorizing a material and storing it in the brain's memory for a time to be used if needed. Meanwhile, according to Sardiman's theory, all knowledge arises from activities, obtained by self-observation. This indicates that everyone who reads and memorizes must be active on their own (Marwansyah & Hidayat, 2019).

Several previous studies conducted by Thohir, (2021) with the title "The Effect of Memorizing the Qur'an on the Learning Achievement of PAI Students of IT Junior High School Permata Hati Tebing Tinggi" showed that memorizing the Qur'an had a very good influence on the learning achievement of PAI students. This is based on the results of the hypothesis test obtained $t_{hitung} = 0.372$ and $t_{tabel} = 0.264$. Thus $t_{hitung} > t_{tabel}$. So this means that there is an influence of Qur'an Memorization on the learning

achievement of PAI students at SMP IT Permata Hati Tebing Tinggi. The same research was also conducted by Yudha & Rohmadi (2022) with the title "The Relationship between the Ability to Memorize the Qur'an and Mathematics Lesson Achievement in Class VIII SMP-IT Ibnu Abbas Klaten Academic Year 2017/2018" showed that there was a positive and significant relationship between the ability to memorize the Qur'an and the learning achievement of students. Thus, it can be seen that the relationship between the two is formed like a straight line that is interconnected and cooperates, in the sense that if the memorization of the Qur'an is improved, the achievement of learning mathematics also increases.

Based on the presentation above, the researcher is interested in conducting research related to the relationship between the ability to memorize the Qur'an and the results of; teaching mathematics for grade XI MA students Putri Al-Aziziyah. This study was conducted to describe the ability to memorize the Qur'an of grade XI students of MA Putri Al-Aziziyah, to describe the mathematics learning outcomes of students of grade XI MA Putri Al-Aziziyah and to find out the relationship between the ability to memorize the Qur'an and the mathematics learning outcomes of students of grade XI MA Putri Al-Aziziyah.

Method

This study uses a quantitative approach with a correlation research design. Quantitative approaches are chosen to explain or explain, determine the quality of variables, test the relationships between variables, test theories and look for generalizations that have predictive value (Mukhid, 2021). Correlation research is used to examine how possible relationships are related between variables by paying attention to the magnitude of the correlation coefficient. Research design and method should be clearly defined (Abdullah, 2015). In this study, the researcher used two variables, namely the ability to memorize the Qur'an and the mathematics learning outcomes of students.

The place of this research is Madrasah Aliyah Putri Al-Aziziyah West Lombok in the even semester of the 2023/2024 school year. The sample from this research is 63 students from a population of 170 students. In this case, the sample is determined by the proportionate cluster random sampling technique. Proportionate cluster random sampling is a method of sampling in a proportional random way when the population has groups and is heterogeneous (Sugiyono, 2010).

The data needed for this study are data on students' ability to memorize the Qur'an and data on student learning outcomes. The subject of this study is a student of grade XI MA Putri Al-Aziziyah for the 2023/2024 Academic Year. The data collection

techniques in this study are as follows: 1) Observation; 2) Test; 3) Interviews; 4) Documentation.

In this study, data on students' mathematics learning outcomes were obtained from the results of the Final Semester Assessment (PAS) for the 2023/2024 academic year. Meanwhile, data on students' ability to memorize the Qur'an was obtained through an oral test conducted on students, by providing three questions connecting verses of the Qur'an. The following aspects are assessed in obtaining data on students' ability to memorize the Qur'an.

Table 2. Assessment of the ability to memorize the Qur'an

No	Aspects	Maximum Value
1	Fluency	50
2	Tartil	25
3	Fasahah and Etiquette	25

The data analysis in this study uses descriptive analysis and hypothesis testing. Before conducting a hypothesis test, first conduct a prerequisite test, namely the normality test and the linearity test. If the data is normally distributed, the hypothesis test uses the Pearson product moment correlation formula with the condition that if the significance value < 0.05, it will be correlated. The following is a table of interpretation of the correlation values of pearson product moment (Rahmi Ramadhani & Nuraini Sri Bina, 2021).

Table 3. Interpretation of the value of the pearson product moment correlation

Coefficient interval	Relationship level
0,88 - 1,000	Very powerful
0,60 - 0,799	Strong
0,40 - 0,599	Quite strong
0,20 - 0,399	Weak
0,00 - 0,199	Very weak

Result and Discussion

Result of Descriptive Analysis

The variable (X), which ability to memorize the Qur'an as measured through an oral test, can be described as follows: the minimum score is 57, the maximum score is 99, the average score is 85,88, and the standard deviation of the Qur'an memorization ability data is 10,01.

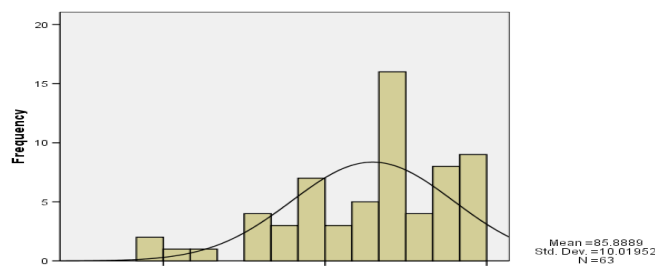


Figure 1. Results of Descriptive Analysis of the Ability to Memorize the Qur'an

The variable (Y), representing mathematics learning outcomes based on the Final Semester Assessment scores, can be described as follows: the minimum score is 78, the maximum score is 89, the average score is 83,34, and the standard deviation of the mathematics scores is 2,63.

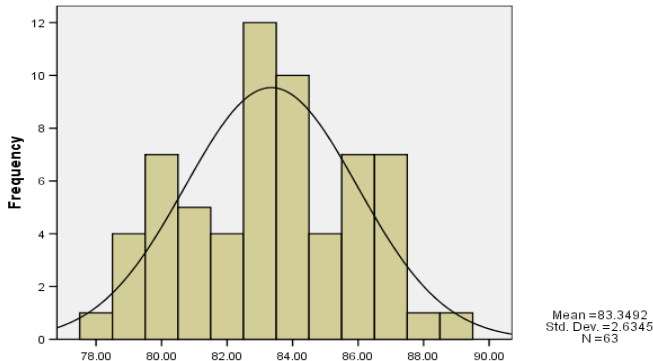


Figure 2. Results of Descriptive Analysis of Mathematics Learning Outcomes

Normality Test Results

A normality test is conducted to determine whether the obtained data are normally distributed or not. The data is considered normal iif significance value is $\geq 0,05$. Below are table 3, wich shows the normality test results for the Qur'an memorization ability data, and Table 4, wich shows the normality test results for students mathematics learning outcomes.

Tabel 3. Hasil uji normalitas data kemampuan menghafal

	Shapiro-Wilk		
	Statistic	Df	Sig.
IPA 1	0,905	9	0,285
IPA 2	0,869	9	0,119
IPS 1	0,981	9	0,970
IPS 2	0,848	9	0,071
AGAMA	0,912	9	0,332
BAHASA	0,842	9	0,061

Tabel 4. Hasil uji normalitas data hasil belajar matematika

	Shapiro-Wilk		
	Statistic	Df	Sig.
IPA 1	0,881	9	0,162
IPA 2	0,914	9	0,341
IPS 1	0,870	9	0,122
IPS 2	0,954	9	0,730
AGAMA	0,922	9	0,413
BAHASA	0,907	9	0,294

Based on the table above, it can be seen that the significance value on all data $> 0,05$ so that it can be concluded that the data on the ability to memorize the Qur'an and the data on students' mathematics learning outcomes are normally distributed.

Results of the Linearity Test

The linearity test is carried out to find out whether there is a significant linear relationship between the variables. Based on the research data, the results of the linearity test are obtained as follows.

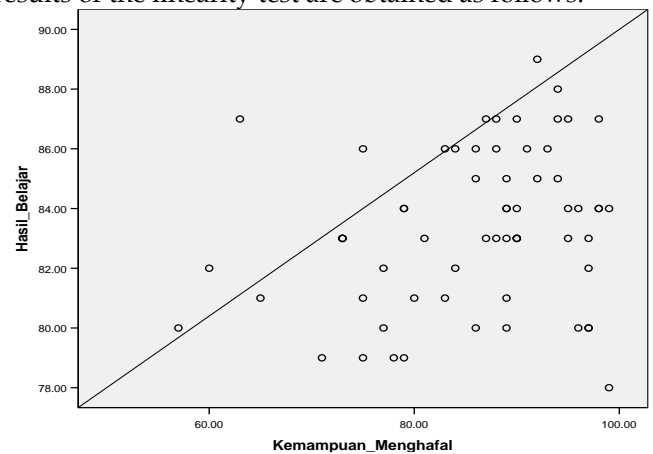


Figure 3. Linearity Test Results

Based on the image above, it can be seen that the results of the normality test using the scatter plot show that the graph is pointing towards the upper right, so that the data obtained is in the linear category.

Hypothesis Test Results

Once the data has been declared normal and linear, the next test can be carried out, namely the hypothesis test of this test is carried out to find out whether there is a relationship between the ability to memorize the Qur'an and the students' mathematics learning skills. The test was carried out with the help of the SPSS application. The following is Table 5 of the results of the hypothesis test:

Tabel 5. Hasil uji hipotesis

		Kemampuan Menghafal Al-Qur'an	Hasil Belajar
Kemampuan Menghafal Al-Qura'an	Pearson correlation	1	0,257
	Sig (2-tailed)		0,042
	N	63	63
Hasil Belajar	Pearson	0,257	1

correlation		
Sig (2-tailed)	0,042	
N	63	63

The decision making on pearson product moment coerlations is that if the sig value is < 0.05, it is a chorus, if the sig value is > 0.05, it is not correlated. Based on the table above, it can be known that the value of Sig. 0.042 < 0.05 means that the hypothesis is accepted. So it can be concluded that there is a relationship between the ability to memorize the Qur'an and mathematics learning outcomes. To find out the degree of relationship between the two variables, see the following table.

Table 6. Interpretation of the value of the pearson product moment correlation

Coefficient interval	Relationship level
0,88 - 1,000	Very powerful
0,60 - 0,799	Strong
0,40 - 0,599	Quite strong
0,20 - 0,399	Weak
0,00 - 0,199	Very weak

Based on the table of the results of the hypothesis test, a pearson correlation value of 0.257 was obtained, the correlation was declared weak, and the type of relationship between the ability to memorize the Qur'an and the learning outcomes of students was positive.

Based on calculations using the SPSS application, it was found that the variables of the ability to memorize the Qur'an obtained through the oral test can be described as the minimum score is 57, the maximum score is 99, and the average is 85.88. So that the ability to memorize the Qur'an of grade XI MA students Putri Al-Aziziyah is classified as very good. The variables of mathematics learning outcomes obtained from the Even Semester Final Assessment score can be described as the minimum score is 78, the maximum score is 89, and the average is 83.34. So that the mathematics learning results of grade XI MA students Putri Al-Aziziyah are very good.

Based on the results of the research that has been carried out, if the data is normally distributed, the hypothesis test that will be used is the correlation of the Pearson product moment with the provision that if the Sig < 0.05, it means that it is correlated, and if the Sig > 0.05, it is not correlated. Based on the calculations that have been carried out through the SPSS application, a Significance value of 0.042 was obtained. Because the Significance value of 0.042 < 0.05 means that the hypothesis proposed is accepted. So it can be seen that there is a positive relationship between the ability to

memorize the Qur'an and the mathematics learning outcomes of grade XI students of MA Putri Al-Aziziyah.

Based on the results of the Pearson product moment correlation test, a Pearson correlation value of 0.257 was obtained, which means that there is a weak correlation between the two variables. It can be seen that the ability to memorize the Qur'an contributes 6.6% in determining students' mathematics learning outcomes, and the other 94% is determined by other factors.

This is in line with the results of a study conducted by Nafliani entitled "The Relationship between Memorization of the Qur'an and the Learning Outcomes of Students in Mathematics Subjects at SDTQ-T An Najah Cindai Alus Martapura" which found that there was a significant influence between the ability to memorize the Qur'an and students' attitudes towards mathematics learning outcomes (Nafliani et al., 2021). This is also in accordance with the results of research conducted by Ulan Susilawati who explained that there is a positive relationship between the ability to memorize the Qur'an and student learning outcomes in Qur'an Hadith subjects which are classified as weak and have an influence of 6.6% and 94.4% other determined by other factors.

The same research was also conducted by Fatmi, Fatrima Santri Syafri, and Poni Saltifa (2022) with the title "The Effect of the Ability to Memorize the Qur'an on the Understanding of Mathematical Concepts for Students of Madrasah Aliyah Pondok Pesantren Pancasila Bengkulu City" that there was a significant influence between the ability to memorize the Qur'an and the understanding of mathematical concepts. However, students' mathematical comprehension ability is not only influenced by these variables, but also influenced by other variables. However, there is also a study conducted by Yudha & Rohmadi (2022) entitled "The Relationship between the Ability to Memorize the Qur'an and the Achievement of Mathematics Lessons in Class VIII of SMP-IT Ibnu Abbas Klaten Academic Year 20017/2018" with the results that there is a relationship between the ability to memorize the Qur'an and the achievement of mathematics lessons in grade VII SMP-IT Ibnu Abbas Klaten. The relationship between the two variables was positive and from the results of the calculation, it was concluded that students' mathematics learning achievement was determined or influenced by the memorization of the Qur'an by 75.69% and the other 24.31% was determined by other factors.

As in learning something, there are various supporting factors as well as obstacles in memorizing the Qur'an. According to Sutisna (2023), there are many factors that support a person in memorizing the Qur'an,

including careful preparation, good time management, motivation and stimulus, memorization places and so on. This is in accordance with the results of interviews conducted with teachers, mustami' (listeners) and students. Based on the results of the interview, it was concluded that students who have very good memorization skills in the Qur'an also have good learning results. This is because the student likes mathematics and takes private lessons during long holidays at the Islamic boarding school, manages time well and so on. However, there are some students who have good memorization skills in the Qur'an, but their learning outcomes are low. This is because the students lack preparation, cannot manage time, and there are also those who do not like mathematics subjects.

Conclusion

Based on the results of the research carried out, the following conclusions can be drawn: 1) The ability to memorize the Qur'an of grade XI MA MA Putri Al-Aziziyah students in terms of fluency got a score of 48.78%, the tartil aspect of 24.33% and the aspect of fashah and manners of 26.78% with an average score of 85.88. So that the memorization ability of grade XI MA students Putri Al-Aziziyah is classified as very good; 2) The mathematics learning outcomes of grade XI students of MA Putri Al-Aziziyah have an average of 83.34. So that the students' mathematics learning outcomes are very good; 3) The results of the correlation test calculation showed a significance value of $0.042 < 0.05$ which means that there is a relationship between the ability to memorize the Qur'an and the mathematics learning results with a correlation value of 0.257, then the correlation is declared weak. The type of relationship between the two variables is positive, meaning that if the ability to memorize the Qur'an increases, then the mathematics learning results also increase, but this increase is not set.

References

- Abdullah, M. (2015). *Metode Penelitian Kuantitatif*. Yogyakarta : Aswaja Pressindo.
- Assegaf, S. (2020). *Meraih Prestasi Belajar dengan Tahfidz Al-Qur'an Tinjauan Sekolah Islam di Jakarta*. Jakarta: Penerbit A-Empat. <https://books.google.co.id/books?id=YM5VEAAAQBAJ>
- Fatmi, F., Fatrima Santri Syafri, & Poni Saltifa. (2022). Pengaruh Kemampuan Menghafal Al-Quran terhadap Pemahaman Konsep Matematika bagi Siswa Madrasah Aliyah Pondok Pesantren Pancasila Kota Bengkulu. *Jurnal Pendidikan Mipa*, 12(3), 464-471. <https://doi.org/10.37630/jpm.v12i3.639>
- Firdaus, Z., & Wiyono, A. H. (2019). Pengaruh Menghafal Al-Qur'an Terhadap Pembentukan Akhlak Siswa. *Jurnal Samawat*, 03(01), 83-84. <https://jurnal.badrushsholeh.ac.id/index.php/samawat/article/view/263>
- Leni, M., & Sholehun. (2021). Analisis Faktor-Faktor yang Mempengaruhi Hasil Belajar Bahasa Indonesia pada Siswa Kelas IV SD Muhammadiyah Majaran Kabupaten Sorong. *Jurnal Keilmuan, Bahasa, Sastra, Dan Pengajarannya*, 2(1), 66-74. <https://unimuda.ejournal.id/jurnalbahasaindonesia/article/download/952/582>
- Maimun, L. (2017). *Islamic Studies & Character Building*. Pekalongan: Penerbit NEM. <https://books.google.co.id/books?id=LQwaEAAQBAJ>
- Marwansyah & Hidayat, A. W. (2019). Kegiatan Ekstrakurikuler Tahfidz Qur'an Juz 30 Dengan Aktivitas Belajar Siswa. *Madaniyah*, 9(2), 242-243.
- Mukhid, A. (2021). *Metodologi Penelitian Pendekatan Kuantitatif*. Surabaya: Jakad Media Publishing. <https://books.google.co.id/books?id=IQ4IEAAAQBAJ>
- Muslih, A. (2023). *Meningkatkan Motivasi Belajar dan Prestasi Belajar Akademik Dengan Akselerasi Tahfidzul Qur'an* (Makassar). Rizmedia Pustaka Indonesia. <https://books.google.co.id/books?id=rbDNEAAQBAJ>
- Nafliani, A., Ansari, M. I., Barsihanor, B., & Kumala, S. (2021). Hubungan Hafalan Al- Qur'an dengan Hasil Belajar Peserta Didik pada Mata Pelajaran Matematika di SDTQ-T An Najah Cindai Alus Martapura. *JIEES: Journal of Islamic Education at Elementary School*, 2(2), 53-62.
- Pantiwati, Y., Restian, A., Sumarsono, P., & Husamah. (2016). *Belajar dan Pembelajaran*. Malang: UMM Press. <https://books.google.co.id/books?id=F5xjDwAAQBAJ>
- Rahmi Ramadhani, S. P. I. M. P., & Nuraini Sri Bina, S. P. M. P. (2021). *Statistika Penelitian Pendidikan: Analisis Perhitungan Matematis dan Aplikasi SPSS*. Prenada Media. <https://books.google.co.id/books?id=0WFHEAAQBAJ>
- Setiawan, M. A. (2017). Belajar dan Pembelajaran. In Ponorogo (Ed.), *Uwais Inspirasi Indonesia*. Uwais Inspirasi Indonesia. https://www.google.co.id/books/edition/Belajar_dan_Pembelajaran/CPHqDwAAQBAJ?hl=id&gbpv=0
- Sugiyono, D. (2010). *Metode penelitian kuantitatif kualitatif dan R&D*. Bandung: Alfabeta.

- Sutisna, E. (2023). *Evaluasi program tahfiz Al-Qur'an*. Jakarta: Publica Indonesia Utama. <https://books.google.co.id/books?id=6WTTEAA AQBAJ>
- Thohir, M. (2021). *Pengaruh Menghafal Al-Qur'an Terhadap Prestasi belajar PAI Siswa di SMP IT Permata Hati Tebing Tinggi*. <http://repository.uinsu.ac.id/id/eprint/13471>
- Wulandari, T. (2023). Faktor - Faktor yang Mempengaruhi Prestasi Belajar Siswa SMK. *Arus Jurnal Psikologi Dan Pendidikan*, 2(3), 267-284. <http://jurnal.ardenjaya.com/index.php/ajpp>
- Yudha, E. C., & Rohmadi, Y. (2022). Hubungan Kemampuan Hafalan Al-Qur'an dengan Prestasi Pelajaran Matematika di Kelas VIII SMP-IT Ibnu Abbas Klaten Tahun Pelajaran 2017/2018. *Edukasi Islami: Jurnal Pendidikan Islam*, 11(02), 617-628. <https://doi.org/10.30868/ei.v11i02.1419>
- Yunus, M. (1973). *Kamus Arab-Indonesia*. Yayasan Penyelenggara Penterjemah Pentafsiran Al-Quran. <https://books.google.co.id/books?id=ifaNngEA CAAJ>