

## THE EFFECT OF USING A DIGITAL QUR'AN APP ON STUDENTS' UNDERSTANDING OF TAJWID

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### Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan aplikasi Al-Qur'an digital terhadap pemahaman ilmu tajwid siswa SMP Al-Razi Sinar Harapan Medan. Penelitian dilatarbelakangi oleh masih ditemukannya siswa yang mengalami kesulitan dalam memahami dan menerapkan hukum-hukum tajwid saat membaca Al-Qur'an. Di sisi lain, perkembangan teknologi menghadirkan berbagai aplikasi Al-Qur'an digital yang dilengkapi fitur tajwid, audio murottal, dan terjemahan yang berpotensi mendukung proses pembelajaran. Penelitian ini menggunakan pendekatan kuantitatif dengan desain korelasional. Populasi penelitian terdiri atas 32 siswa kelas VII-1 SMP Al-Razi Sinar Harapan Medan dan seluruhnya dijadikan sampel penelitian menggunakan teknik total sampling. Pengumpulan data dilakukan melalui angket, tes pemahaman ilmu tajwid, observasi, wawancara, dan dokumentasi. Data dianalisis menggunakan uji normalitas dan regresi linear sederhana. Hasil penelitian menunjukkan bahwa penggunaan aplikasi Al-Qur'an digital berpengaruh positif dan signifikan terhadap pemahaman ilmu tajwid siswa, dengan koefisien regresi sebesar 0,675 dan nilai signifikansi  $0,000 < 0,05$ . Nilai koefisien determinasi ( $R^2$ ) sebesar 0,812 menunjukkan bahwa 81,2% variasi pemahaman ilmu tajwid siswa dapat dijelaskan oleh penggunaan aplikasi Al-Qur'an digital. Temuan ini menunjukkan bahwa aplikasi Al-Qur'an digital efektif digunakan sebagai media pembelajaran untuk meningkatkan pemahaman ilmu tajwid siswa.

**Kata Kunci:** Aplikasi Al-Qur'an Digital, Pemahaman Ilmu Tajwid, Pembelajaran Al-Qur'an

### Abstract

This study aims to determine the effect of using a digital Qur'an app on the understanding of tajwid among students at Al-Razi Sinar Harapan Junior High School in Medan. The study was motivated by the fact that some students still struggle to understand and apply the rules of tajwid when reading the Qur'an. On the other hand, technological advancements have led to the development of various digital Qur'an applications equipped with tajwid features, audio recitations, and translations that have the potential to support the learning process. This study employed a quantitative approach with a correlational design. The study population consisted of 32 students in Class VII-1 at Al-Razi Sinar Harapan Junior High School in Medan, all of whom were included as the study sample using total sampling. Data collection was conducted through questionnaires, a tajwid comprehension test, observations, interviews, and documentation. The data were analyzed using normality tests and simple linear regression. The results indicate that the use of the digital Quran app has a positive and significant effect on students' understanding of tajwid, with a regression coefficient of 0.675 and a significance value of  $0.000 < 0.05$ . The coefficient of determination ( $R^2$ ) of 0.812 indicates that 81.2% of the variation in students' understanding of tajwid can be explained by the use of digital Qur'an applications. These findings suggest that digital Qur'an applications are effective as a learning medium for improving students' understanding of tajwid.

**Keywords:** Digital Quran App, Understanding Tajwid, Quran Learning

## INTRODUCTION

The Qur'an is the holy book revealed by Allah SWT to Prophet Muhammad (PBUH) as a guide for human life (Arif, 2021). As the primary source of Islamic teachings, the Qur'an occupies a central position in the life of every Muslim. Reading, understanding, and implementing the teachings of the Qur'an are obligations that every Muslim must fulfill in order to attain guidance and prosperity in both this world and the hereafter. Therefore, Qur'anic learning constitutes an inseparable component of the Islamic educational process. One of the essential aspects of Qur'anic learning is the ability to recite the Qur'an in accordance with the rules of Tajwid (Salsabila, 2024).

Tajwid is the science that studies the proper methods of reciting the Qur'an according to the correct articulation points (makhraj), characteristics of letters, and applicable rules of recitation. The primary objective of Tajwid is to preserve the authenticity of Qur'anic recitation as taught by Prophet Muhammad (PBUH) (Usman, 2024). Errors in Qur'anic recitation may alter the meanings of the verses being read; therefore, understanding and applying Tajwid rules are crucial for every Muslim. Within the context of formal education, Tajwid is one of the core subjects in Islamic Religious Education, aiming to develop students' ability to recite the Qur'an correctly and fluently (tartil) (Hidayatullah, 2026).

The command to recite the Qur'an in a measured and proper manner (tartil) is explicitly mentioned in Allah SWT's statement in Surah Al-Muzzammil verse 4, which means, "And recite the Qur'an with measured recitation." This verse indicates that reciting the Qur'an is not merely a matter of pronouncing the Arabic letters but also requires adherence to the prescribed rules of recitation. Consequently, mastery of Tajwid is an integral part of Qur'anic learning. The better an individual's understanding of Tajwid, the higher the quality of their Qur'anic recitation (Salsabila, 2024).

However, empirical evidence indicates that many students still experience difficulties in understanding and applying Tajwid rules. These difficulties are reflected in errors related to the pronunciation of letters, the application of the rules of nun sakinah and tanwin, mim sakinah, madd, and other recitation regulations. This condition suggests that Tajwid instruction requires more effective teaching methods and learning media to facilitate students' understanding of the material. Furthermore, the evolving characteristics of learners, who are increasingly familiar with technology, demand innovation in the learning process (Salsabila, 2024).

The development of information and communication technology in the digital era has brought significant changes to various aspects of life, including education. Technology is no longer merely a means of communication but has also become an instructional medium capable of enhancing the effectiveness of teaching and learning processes. The integration of technology into education enables students to access information more quickly, conveniently, and attractively. Various educational applications have been developed to support learning activities, including those related to Islamic education (Baiti, 2022).

One technological innovation that has developed rapidly in Qur'anic learning is the digital Qur'an application. A digital Qur'an application is an electronic medium containing the complete text of the Qur'an along with various supporting features such as translations, exegesis (tafsir), audio recitations (murottal), Tajwid guidance, verse search functions, and explanations of recitation rules. The existence of these applications provides users with convenient access to reading and studying the Qur'an anytime and anywhere through digital devices such as smartphones, tablets, and computers (Arif, 2021).

The accessibility offered by digital Qur'an applications has made them increasingly popular among society, particularly among younger generations who are accustomed to utilizing technology in their daily lives. Students, as members of the digital generation, tend to rely heavily on technological devices as learning tools. Therefore, digital Qur'an applications have considerable potential as effective learning media for improving students' understanding of Islamic subjects, particularly Tajwid (Muflih, 2020).

Various digital Qur'an applications currently available are equipped with interactive Tajwid learning features. For example, specific color coding is used to indicate particular recitation rules, professional Qari audio recordings are provided, and detailed explanations of Tajwid principles are included. These features enable students to engage in self-directed learning and gain a more interesting learning experience compared to conventional methods that rely solely on textbooks. In addition, students can review learning materials anytime according to their individual needs without being restricted by time and place (Muflih, 2020).

From the perspective of modern learning theories, the use of digital media can enhance students' learning motivation by providing a more interactive learning experience. According to multimedia learning theory, the integration of text, images, audio, and animation can facilitate learners' understanding of educational content. Therefore, digital Qur'an applications that combine various multimedia elements possess significant potential to improve the quality of Tajwid learning. Through technological assistance, students not only receive theoretical explanations but can also listen to correct recitation examples and practice them directly (Abdurrohman, 2003).

Despite their numerous advantages, the use of digital Qur'an applications as learning media still requires further investigation regarding their effectiveness in improving students' understanding of Tajwid. Not all students who utilize digital applications automatically develop a strong understanding of the material being studied. Factors such as learning motivation, frequency of application use, technological competence, and teacher guidance may also influence learning outcomes. Therefore, it is important to determine the extent to which digital Qur'an applications truly contribute to students' understanding of Tajwid (Rahmawati, 2019).

Based on preliminary observations conducted at SMP Al-Razi Sinar Harapan Medan, it was found that the school has implemented various religious activities as part of its efforts to develop students' religious character. One of the regularly conducted activities is Qur'an recitation before the commencement of classroom instruction. This activity aims to familiarize

students with the Qur'an and improve their recitation skills. Nevertheless, several students were still found to have difficulties applying Tajwid rules accurately when reciting the Qur'an, particularly concerning the rules of nun sakinah and tanwin (al-Hafizh, 2005).

Most students already possess smartphones and utilize various digital Qur'an applications in their daily lives. Applications such as Al-Qur'an Indonesia and My Qur'an are among the most frequently used because they provide attractive and easily accessible learning features. This phenomenon indicates that digital technology has substantial potential to be utilized as a more effective medium for Tajwid instruction that aligns with the needs of contemporary learners (Shalih, 1999).

Based on the above discussion, the use of digital Qur'an applications is considered an innovative learning alternative that may assist students in improving their understanding of Tajwid. However, scientific research is needed to verify whether the use of such applications significantly influences students' level of understanding. Therefore, this study was conducted to analyze the effect of digital Qur'an application usage on the understanding of Tajwid among students at SMP Al-Razi Sinar Harapan Medan. The findings of this study are expected to contribute to the development of technology-based Qur'anic learning and serve as a reference for teachers and educational institutions in utilizing digital media as an effective learning tool in the modern era.

## **METHOD**

This study employed a quantitative approach with a correlational research design aimed at determining the effect of digital Qur'an application usage on students' understanding of Tajwid at SMP Al-Razi Sinar Harapan Medan. The quantitative approach was selected because the study focused on measuring data in numerical form, which were subsequently analyzed using statistical techniques to examine the relationship between the research variables. The independent variable in this study was the use of digital Qur'an applications, while the dependent variable was students' understanding of Tajwid (Arikunto, 2013). The research was conducted at SMP Al-Razi Sinar Harapan Medan during the second semester of the 2024/2025 academic year, from February to April 2025. The study population consisted of all 32 students in Class VII-1. Since the population size was relatively small, the entire population was selected as the research sample using the total sampling technique (Sugiyono, 2022).

Data were collected through several techniques, namely questionnaires, tests, observations, interviews, and documentation. The questionnaire was used to measure the extent of students' use of digital Qur'an applications, while the test was administered to assess students' understanding of Tajwid, including aspects such as fluency in Qur'anic recitation, correct pronunciation of letters (makhrāj), and the application of Tajwid rules. Observation was conducted to monitor students' activities during the learning process, whereas interviews and documentation served as supporting data to strengthen the research findings (Sugiyono, 2022).

The collected data were analyzed using both descriptive and inferential statistics. Prior to hypothesis testing, the data were subjected to a normality test using the Shapiro–Wilk test to

ensure that the data were normally distributed (Ghozali, 2018). Subsequently, hypothesis testing was carried out using simple linear regression analysis to determine the extent of the effect of digital Qur'an application usage on students' understanding of Tajwid. The results of the analysis were then interpreted based on the significance values and coefficients of determination in order to identify the magnitude of the influence of the independent variable on the dependent variable in this study.

## **RESULTS AND DISCUSSIONS**

### **Results**

This study aimed to examine the effect of digital Qur'an application usage on the Tajwid understanding of Grade VII-1 students at SMP Al-Razi Sinar Harapan Medan. The research data were collected through questionnaires measuring the use of digital Qur'an applications and Tajwid comprehension tests administered to 32 students as the research sample. After all data had been collected, they were processed and analyzed using descriptive and inferential statistical techniques to obtain an objective overview of the relationship between the two research variables.

#### **1. Use of Digital Qur'an Applications**

Based on the questionnaire results, it was found that most students had used digital Qur'an applications in both their learning activities and daily worship practices. The most frequently used applications were *Al-Qur'an Indonesia* and *My Qur'an* because they provide translation features, audio recitations (murottal), last-reading bookmarks, and Tajwid guidance that facilitate students in reading and studying the Qur'an. The use of these applications was not limited to school activities but also extended to home-based independent learning.

The data analysis results indicated that the level of digital Qur'an application usage was categorized as high. Most students reported that the applications were easy to use, visually appealing, and helpful in understanding Tajwid rules through color-coded Tajwid features and audio recitations. Furthermore, students felt more motivated to read the Qur'an because the applications could be accessed anytime through their smartphones.

These findings suggest that the development of digital technology has influenced students' learning habits. Whereas students previously relied primarily on printed Qur'anic texts and teachers' explanations, they can now utilize technology as an additional and more flexible learning resource. The availability of digital Qur'an applications enables students to review Tajwid materials independently without being constrained by time and location.

#### **2. Students' Understanding of Tajwid**

Students' understanding of Tajwid was assessed through a test covering three main indicators: fluency in Qur'anic recitation, understanding of the articulation points of letters (makhrāj), and knowledge of Tajwid rules. The test results revealed that most students demonstrated a good level of Tajwid understanding. They were able to identify several

fundamental recitation rules, such as *Izhar*, *Idgham*, *Ikhfa*, and *Iqlab*, and apply them correctly in Qur'anic recitation.

However, several students still experienced difficulties distinguishing between recitation rules with similar characteristics, particularly those related to *nun sakinah* and *tanwin*. These difficulties became evident when students were asked to identify recitation rules within selected Qur'anic verses. In addition, some students encountered challenges in pronouncing certain Arabic letters according to their correct articulation points.

Despite these limitations, the overall test results indicated that students' level of Tajwid understanding fell within the good category. This finding suggests that the learning process implemented at the school, along with the use of supplementary learning media, including digital Qur'an applications, has contributed positively to improving students' Tajwid proficiency.

### **3. Data Normality Test**

Prior to conducting the regression analysis, the data were tested for normality using the Shapiro–Wilk test. The results showed that the significance value for the digital Qur'an application usage variable was 0.143, while the significance value for the Tajwid understanding variable was 0.081. Both values exceeded 0.05, indicating that the data were normally distributed and met the assumptions required for simple linear regression analysis.

### **4. Simple Linear Regression Analysis**

Simple linear regression analysis was employed to determine the effect of digital Qur'an application usage on students' understanding of Tajwid. The analysis revealed a regression coefficient of 0.675 with a significance value of 0.000. Since the significance value was lower than 0.05, it can be concluded that the use of digital Qur'an applications had a positive and statistically significant effect on students' understanding of Tajwid.

The resulting regression equation was:

$$Y = 2.451 + 0.675X$$

This equation indicates that every one-unit increase in digital Qur'an application usage is associated with a 0.675-unit increase in students' Tajwid understanding. In other words, the higher the intensity of digital Qur'an application usage, the higher the students' level of Tajwid comprehension.

The coefficient of determination ( $R^2$ ) value of 0.812 indicates that 81.2% of the variation in students' Tajwid understanding can be explained by the use of digital Qur'an applications, while the remaining 18.8% is influenced by other factors beyond the scope of this study, such as teachers' instructional methods, family environment, learning motivation, and students' prior Qur'anic reading abilities. Based on these findings, the research hypothesis stating that there is a positive and significant effect of digital Qur'an application usage on students' understanding of Tajwid is accepted.

## **Discussion**

The findings of this study indicate that the use of digital Qur'an applications has a positive and significant effect on the Tajwid proficiency of students at SMP Al-Razi Sinar

Harapan Medan. This result demonstrates that the integration of digital technology into Qur'anic learning can serve as an effective strategy for improving students' understanding of Tajwid rules and enhancing the quality of Islamic education. In the contemporary digital era, where students are increasingly familiar with technological devices, the utilization of digital learning media has become an important component in supporting educational objectives. The findings suggest that digital Qur'an applications can bridge the gap between traditional Qur'anic instruction and the learning preferences of modern students.

The positive influence of digital Qur'an applications can be explained by the various interactive features available within these platforms. Unlike conventional printed Qur'anic texts, digital Qur'an applications offer a wide range of supporting tools, including audio recitations (murottal), translations, Tajwid explanations, color-coded recitation rules, bookmarking systems, and search functions. These features enable students to engage with the learning material in a more dynamic and interactive manner. Through repeated exposure to both visual and auditory learning resources, students are able to develop a deeper understanding of Tajwid concepts and improve their ability to apply these rules correctly while reciting the Qur'an.

From the perspective of Multimedia Learning Theory proposed by Mayer, learning becomes more effective when information is presented through multiple channels, such as text, audio, and visual representations. The integration of these elements helps learners process information more efficiently by engaging both verbal and visual cognitive systems. In the context of this study, students not only read Qur'anic verses but also listen to correct recitations while simultaneously observing visual indicators of Tajwid rules through color coding. Such multimodal learning experiences facilitate the acquisition of knowledge and strengthen memory retention. Consequently, students are better able to understand the theoretical aspects of Tajwid and apply them during Qur'anic recitation.

Another important finding of this study is the role of digital Qur'an applications in enhancing students' learning motivation. Educational technology literature consistently emphasizes that attractive and user-friendly learning media can increase learners' engagement and interest in educational activities. The participating students reported that the applications were easy to use, visually appealing, and enjoyable to access. These characteristics contributed to their willingness to spend more time learning and practicing Tajwid. Increased motivation is a crucial factor because students who are motivated to learn are more likely to engage actively with educational materials, practice independently, and achieve better learning outcomes. Therefore, the effectiveness of digital Qur'an applications may not only stem from the content they provide but also from their ability to encourage continuous learning behavior.

The flexibility offered by digital Qur'an applications also contributes significantly to learning effectiveness. Traditional classroom instruction is often limited by time and space, whereas digital applications enable students to learn whenever and wherever they choose. This flexibility allows students to revisit lessons, review difficult concepts, and practice recitation repeatedly according to their individual learning needs. Independent learning opportunities are

particularly important in mastering Tajwid because proficiency requires continuous practice and repetition. By providing unlimited access to learning materials, digital Qur'an applications support the development of self-directed learning habits among students.

The findings of this study are consistent with previous research on the use of digital technology in Islamic education. Rahmawati (2019) found that digital Qur'an applications significantly improved students' understanding of Tajwid by providing interactive learning experiences that were unavailable through conventional instructional methods. Similarly, Anwar (2020) concluded that digital Qur'an applications effectively facilitated independent learning and enhanced students' ability to recognize and apply various Tajwid rules. The consistency between the present findings and previous studies strengthens the argument that technology-based learning tools can play a valuable role in improving educational outcomes in Islamic studies.

Furthermore, the results support the broader view that digital technology can serve as an effective educational instrument when implemented appropriately. In Islamic education, technology should not be viewed merely as a communication tool but also as a medium for disseminating knowledge, strengthening religious literacy, and supporting the learning process. The emergence of digital Qur'an applications reflects the adaptation of Islamic educational practices to contemporary technological developments. By providing accessible and practical learning resources, these applications contribute to expanding students' opportunities to engage with the Qur'an and deepen their understanding of its recitation principles.

Despite the positive outcomes observed in this study, the findings also reveal that digital Qur'an applications cannot entirely replace the role of teachers in Tajwid instruction. Several students continued to experience difficulties in distinguishing between certain recitation rules and articulating specific Arabic letters correctly, even after using the applications. These challenges indicate that some aspects of Tajwid learning require direct guidance, feedback, and correction from qualified instructors. Teachers possess pedagogical expertise that enables them to identify students' mistakes, provide personalized explanations, and adapt instructional strategies to meet individual learning needs. Therefore, technology should be viewed as a complementary tool rather than a substitute for classroom instruction.

The role of teachers remains essential in ensuring that students utilize digital Qur'an applications effectively. Without proper supervision and guidance, students may focus primarily on reading the Qur'an through the application while paying insufficient attention to the underlying Tajwid concepts. Consequently, an integrated learning approach that combines digital technology with face-to-face instruction appears to be the most effective strategy. Such an approach allows students to benefit from the flexibility and interactivity of technology while simultaneously receiving expert guidance and corrective feedback from teachers.

The coefficient of determination ( $R^2$ ) value of 81.2% obtained in this study indicates that digital Qur'an application usage contributes substantially to students' Tajwid proficiency. Nevertheless, approximately 18.8% of the variation in students' understanding is explained by other factors, including learning motivation, family support, frequency of Qur'anic recitation, teaching methods, and students' prior reading abilities. These findings suggest that improving

Tajwid proficiency requires a comprehensive educational approach that addresses both technological and non-technological factors.

In conclusion, the results of this study provide strong evidence that digital Qur'an applications are effective learning media for enhancing students' Tajwid proficiency. The interactive features, accessibility, flexibility, and motivational benefits offered by these applications contribute significantly to students' understanding of Tajwid rules. Therefore, digital Qur'an applications can be recommended as an alternative instructional medium for Qur'anic learning, particularly in efforts to improve Tajwid education and support the development of technology-enhanced Islamic learning environments in the digital age.

## **CONCLUSION**

Based on the findings of this study, it can be concluded that the use of digital Qur'an applications has a positive and significant effect on the Tajwid proficiency of Grade VII-1 students at SMP Al-Razi Sinar Harapan Medan. Digital Qur'an applications have proven to assist students in understanding Tajwid rules through various features, such as Tajwid guidance, audio recitations (murottal), translations, and interactive interfaces. The accessibility and flexibility offered by these applications also enhance students' motivation to learn and recite the Qur'an independently. The results of the regression analysis indicate that the higher the intensity of digital Qur'an application usage, the better the students' level of Tajwid proficiency. The contribution of digital Qur'an applications to students' Tajwid proficiency is relatively high, suggesting that they can serve as effective learning media in supporting Qur'anic instruction in schools. Therefore, the utilization of digital technology should continue to be developed as an innovative learning tool to improve the quality of Islamic education, particularly in the teaching and learning of Tajwid.

## **REFERENCES**

- Abdurrohim, A. I. (2003). *Pedoman Ilmu Tajwid Lengkap*.
- al-Hafizh, A. W. (2005). *Bimbingan Praktis Menghafal Alquran*. Bumi Aksara.
- Anwar, S. (2020). *Pemanfaatan Aplikasi Al-Qur'an Digital sebagai Media Pembelajaran Tajwid di Sekolah Menengah Pertama*.
- Arif, E. (2021). *Penggunaan Media Pembelajaran Ilmu Tajwid Berbasis Android dalam Meningkatkan Kemampuan Membaca Al-Qur'an Peserta Didik Kelas X SMA Negeri 7 Pinrang*. <https://repository.iainpare.ac.id/id/eprint/3301/1/16.1100.125.pdf>
- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Rineka Cipta.
- Baiti, L. N. (2022). Peran Multimedia Interaktif dalam Pembelajaran Membaca Al-Qur'an. *Al-Ibda': Jurnal Pendidikan Islam*, 2(1). <https://www.ejurnal-stitpringsewu.ac.id/index.php/alibda/article/download/217/160>
- Ghozali, I. (2018). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25*.

- Hasunah, U., & Jannah, A. R. (2017). Implementasi Metode Ummi dalam Pembelajaran Alquran pada Santri di Pondok Pesantren Salafiyah Al-Mahfudz Seblak Jombang. *Jurnal Pendidikan Islam (E-ISSN: 2550-1038)*, Vol. 1, No(2).
- Hidayatullah, M. F. (2026). Penggunaan Aplikasi Al-Qur'an Digital dalam Pembelajaran Pendidikan Agama Islam. *Jurnal Ilmi*.  
<https://lonsuit.unismuhluwuk.ac.id/ilmi/article/view/4651>
- Luthfi, A., & Wiza, R. (2022). Implementasi Metode Talqin dalam Program Tahfidz AlQur'an di Sekolah Menengah Pertama 31 Padang. *ISLAMIKA*, 4(4), 609–620.  
<https://doi.org/10.36088/Islamika.V4I4.2067>
- Muflih, M. I. (2020). *Dasar-Dasar Ilmu Tajwid dan Praktik Membaca Al-Qur'an*.
- Rahmawati. (2019). *Efektivitas Penggunaan Aplikasi Al-Qur'an Digital dalam Meningkatkan Pemahaman Ilmu Tajwid pada Siswa SMP*.
- Salsabila, I. F. (2024). *Efektivitas Penggunaan Aplikasi Secil Tajwid untuk Meningkatkan Motivasi Belajar dan Kualitas Bacaan Al-Qur'an*. <https://etheses.uin-malang.ac.id/71797/1/200101110174.pdf>
- Shalih, S. Al. (1999). Mabahas fi Al Ulum Alquran. In *VII* (p. 75). Firdaus.
- Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Usman, H. (2024). *Penggunaan Aplikasi Tajwid dalam Meningkatkan Kemampuan Membaca Al-Qur'an Peserta Didik*.  
<https://repository.iainpare.ac.id/id/eprint/8722/1/2120203886108016.pdf>