Development of Interactive Learning Media for the Law of Reading Nun Mati and Tanwin at the Tahfidz Zamilatul Qur'an House

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ABSTRACT

This study was motivated by the lack of understanding among students at Rumah Tahfidz Zamilatul Qur'an regarding the rules of reading nun mati and tanwin due to conventional and less interactive learning methods. Tajwid learning, which predominantly uses lectures and written exercises, causes students to lack motivation and often make mistakes in reading rules such as idgham, ikhfa, and iqlab. The purpose of this study is to develop effective, interesting, and interactive learning media that are in line with the learning characteristics of tahfidz students in order to improve their understanding and interest in learning tajwid. This study uses a qualitative approach, with the research subjects consisting of tahfidz teachers and students at Rumah Tahfidz Zamilatul Qur'an. Data was collected through observation and interviews, then analyzed. The results show that the technology-based interactive learning media developed received positive responses from teachers and students. This media is considered effective because it is able to present the rules of reading nun mati and tanwin visually and auditorily through letter animations, audio pronunciation, interactive exercises, and evaluations. The application of this media also increases the motivation, active involvement, and accuracy of students' pronunciation in reading the Qur'an.

1. INTRODUCTION

In research at the Tahfidz Zamilatul Qur'an House, it was found that several students had difficulties in understanding and applying the laws of tajweed, especially in the correct reading of nun mati and tanwin. The science of Tajweed is the knowledge of the rules and ways to read the Qur'an as well as possible. The purpose of tajweed science is to preserve the recitation of the Qur'an from misreading. Research also shows that students' ability to read the Qur'an and tajweed varies greatly influenced by family background, learning motivation, learning methods, and the support of the school environment and parents (Alfiati, Parwitasari, and Ansori 2021). This situation can be seen from the many mistakes in pronouncing idgham, ikhfa and izhar when students read the Qur'an. These mistakes not only have an impact on reading accuracy, but also reduce students' confidence in recitation. Therefore, it is necessary to identify learning conditions at Rumah Tahfidz as the first step before learning media intervention.

The learning methods used so far at the Zamilatul Qur'an Tahfidz House still use conventional approaches such as lectures and written exercises without the support of interactive media. This is in accordance with the findings that learning tajweed with conventional methods is less interesting and makes tajweed material "less understood because the material is presented in a conventional form like ordinary books" (Zuraidah, Wahyuna Khoiriyah 2024). As a result, students tend to be passive in the learning process and less motivated to repeat the laws of reading nun mati

and tanwin independently. This condition poses obstacles to the optimization of tajweed learning outcomes in tahfidz institutions. Thus, the weakness of learning media is the main problem that must be overcome in this specific context.

The limitations of learning media also include aspects of visual appeal, interactivity and the availability of learning tools that are in accordance with the character of the students. For example, research shows that the use of poster media in tajweed learning, although it helps increase interest and motivation to learn, is still not able to make students understand tajweed in depth due to the limited interactivity of the media. Therefore, it is necessary to develop more interactive and innovative learning media (Santoso, A. 2023). Not only is it inadequate in terms of visuals, conventional media also does not facilitate independent training and quick feedback for students. This strengthens the need to develop media that is more interactive and adaptive to the learning character of tahfidz students. Therefore, the focus on developing interactive media specifically for the laws of reading nun mati and tanwin is very relevant.

The problems that arise at the Rumah Tahfidz Zamilatul Qur'an also reflect broader challenges in learning tajweed and the Qur'an in other Islamic educational institutions. According to Tanjung and Ariza (2025), in their study "the science of tajweed is very important to ensure that the reading of the Qur'an is correct and does not change the meaning of the verses, there are still many readers of the Qur'an who have difficulties in applying the rules of tajweed correctly" (Fazri Tanjung & Ariza 2025). This shows that the difficulty of students in understanding the laws of reading nun mati and tanwin is not only a local phenomenon, but part of a systemic problem in tajweed learning. Therefore, solutions designed in one institution can contribute to the practice of learning in other tahfidz institutions. Thus, the development of interactive learning media in this specific institution has broader implications.

Along with the development of information technology and the digitalization of education, there are significant opportunities to respond to the challenges of tajweed learning through interactive media. A study said that "Android-based interactive learning media in learning tajweed. The results of the study show that this media can increase the effectiveness and attractiveness of learning, making it an innovative solution to increase learning effectiveness" (Fazri Tanjung & Ariza 2025). The integration of digital technology such as smartphone applications, animation or augmented reality allows the presentation of tajweed rules visually and interactively. The application of this technology can increase learning motivation and active involvement of students in the learning process. Therefore, interactive learning media innovations are very relevant to be used as an answer to the problems found in the Zamilatul Qur'an Tahfidz House.

Interactive learning media not only improves the technical aspects of learning but also has an impact on students' motivation and learning outcomes. As an illustration, research by Jannah and Nur Jannah (2024) on the implementation of interactive learning media in PAI concluded that "students seem to tend to be more focused and their involvement is also increasing" (Jannah & Jannah 2024). With media that displays visuals, audio and direct interaction, students can be more active and understand the rules in depth. Increasing motivation and involvement is important, because without adequate interest in learning, efforts to master the laws of reading nun mati and tanwin will be difficult to succeed. Therefore, the development of interactive media at the Tahfidz Zamilatul Qur'an House is expected to be able to significantly improve the results and learning process of tajweed.

The development of this interactive learning media is also in line with the goal of Islamic education, which is to form a generation that is not only fluent in reading the Qur'an, but also

understands and practices the values of the Qur'an in daily life. In the tajweed program, it is said that the material makharijul letters, the properties of letters, as well as various laws of nun mati or tanwin and mad, as an important basis in the formation of correct and fluent reading of the Qur'an (Faradillah, Suhrah, & Akbar 2024). With the right media, students not only read correctly but also understand the policies and values behind the reading rules. So that the media developed has a technical dimension and spiritual value at the same time. Therefore, the application of interactive media aims not only at the cognitive aspect of learning but also at the affective and spiritual aspects.

Based on the description of the problem above, it is very necessary to develop interactive learning media that is contextual, effective and in accordance with the needs of students at the Tahfidz Zamilatul Qur'an House. The media is expected to be able to bridge the gap between conventional learning methods and the needs of the digital technology era. Given the specific phenomena in the institution as well as the general challenges of tajweed learning in many institutions, this research offers innovative and applicable development solutions. This research will focus on the development of interactive learning media for the law of reading nun mati and tanwin as part of efforts to improve students' understanding and skills. Thus, this research is a response to the practical and theoretical needs in the development of tajweed education in the digital era.

The purpose of this study is to develop an effective and interesting interactive learning media in learning the laws of reading nun mati and tanwin in the Rumah Tahfidz Zamilatul Qur'an. This development aims to answer the problem of low understanding of the law of tajweed due to the use of conventional learning methods and media. Through technology-based interactive media, this research is expected to increase the active involvement of students in the learning process, strengthen the understanding of tajweed concepts through dynamic visual and audio experiences, and foster higher learning motivation.

2. METHODS

This study uses a qualitative approach that aims to understand in depth the process of developing interactive learning media on the legal material of reading nun mati and tanwin at the Rumah Tahfidz Zamilatul Qur'an. The qualitative approach is used because this research emphasizes the meaning, understanding, and interpretation of phenomena that occur in the field. Radianto (2023) explained that qualitative research according to Creswell (2018), qualitative research functions to explore and understand the meaning that is considered to come from social or humanitarian problems faced by individuals or groups (Radianto 2023). Thus, this approach was chosen so that the researcher can describe the media development process naturally according to the context of the learning environment of tahfidz students. This approach also allows researchers to conduct in-depth reflection on the effectiveness and relevance of the learning media developed.

This research was carried out at the Zamilatul Qur'an Tahfidz House which is located in an Al-Qur'an-based educational environment with a focus on tahfidz and tajweed learning. The selection of this location was carried out purposively, because the institution has characteristics that are relevant to the purpose of the research, namely there are problems in learning the law of reading nun mati and tanwin which still use conventional methods. Sugiyono (2020) explained that the purposive sampling technique is used to select research subjects based on certain considerations that are considered to best understand the object being studied. Thus, the Rumah Tahfidz Zamilatul Qur'an was chosen because it can provide contextual and authentic data related to the ongoing tajweed learning process.

3. RESULTS AND DISCUSSION

3.1 The Science of Tajweed Law of Nun Sukun and Tanwin

The science of Tajweed is the knowledge of the rules and ways to read the Qur'an as well as possible. The purpose of tajweed science is to preserve the recitation of the Qur'an from misreading. The science of Tajweed is the knowledge of the rules and ways to read the Qur'an as well as possible. The purpose of tajweed science is to preserve the recitation of the Qur'an from misreading

One of the important materials in tajweed is the law of reading nun mati (نْ) and tanwin (ـًـٍـٌ) which includes four laws. Each law has certain rules that require precision in reciting the letters of hijaiyah after the death or tanwin. Based on the opinion of al-Hafidz al-Jazari (in Munir, 2022), errors in reading these laws include *lahn jali* (great mistakes) that can change the meaning of the reading of the Qur'an. Therefore, understanding and mastering the laws of reading nun mati and tanwin is a fundamental competence for every memorizer of the Qur'an (A. Munir 2022). The law of reading nun mati (نْ) or tanwin (ـًـٍـٌ) includes four reading laws, namely:

Table 1. Reading Law

No.	Reading Rule	Letters That Trigger the Rule	Explanation
1	Idhzar Halqi	أ, هـ, ح, خ, ع, غ	Read clearly without nasalization.
2	Idgham Bi-Gunnah	ي, ن, م, و	Merged into the next letter with nasal sound (ghunnah).
3	Idgham Bila-Gunnah	ل, ر	Merged into the next letter without nasal sound.
4	Iqlab	ب	Converted into an "m" sound with nasalization.
5	Ikhfa Haqiqi	ت ث ج د ذ ز س ش ص ض ط ظ ف ق ك	Concealed/hidden pronunciation with nasalization.

a. Idhzar Halqi

When *the breadfruit* (نْ) or *tanwin* (ـًـٍـٌ) meet on one of the letters (ح), (خ), (ع), (غ), (ء). So the law of reading is Idhzar Halqi. The way to read it is clear and clear. Example of the Qur'an surah Al-Lahab verse 2:

<div dir="rtl">مَآ أَغْنَىٰ عَنْهُ</div>

b. Idhgam Bi-Gunnah

If *nun breadfruit* (نْ) or *tanwin* (ـًـٍـٌ) meet one of the letters *yaa, nun, mim, wau* (ي ن م و), then the ruling of the recitation is idgham bi-ghunnah, the way to read it is to insert it and buzz. Example of Qur'an evidence surah Al-Lahab verse 1:

<div dir="rtl">أَبِى لَهَبٍ وَتَبَّ</div>

c. Idhgam Bila-Gunnah

If *the breadfruit* (نْ) or *tanwin* (ـًـٍـٌ) meet one of the letters *lam* (ل) or *ra'* (ر) then the law of recitation is called Idgham Bila Ghunnah, the way of reading it is to enter it without buzzing. Example of the Qur'anic evidence of Surah Al-Ikhlas verse 4:

<div dir="rtl">

وَلَمْ يَكُنْ لَهُ

</div>

d. Iqlab

If there is *a breadfruit* (نْ) or *tanwin* (ـًـٍـٌ) meeting the letter *baa* (ب) then the law of reading it is called *Iqlab,* the way of reading it is reversed or changed to (م). Example of the Qur'an surah Al-Bayyinah verse 4:

<div dir="rtl">

مِنْ بَعْدِ

</div>

e. Ikhfa Haqiqi

If a *breadfruit* nun (نْ) or *tanwin* (ـًـٍـٌ) meets one of the 15 hijaiyah letters below, then the ruling is called *Ikhfaa' Haqiqi.* The way of reading it is disguised with hijaiyah letters after that. ت ث ج د ذ ز س ش ص ض ط ظ ف ق ك. An example of the Qur'an in verse 4:

<div dir="rtl">

مِنْ شَرِّ الْوَسْوَاسِ ەۛ الْخَنَّاسِ

</div>

3.2 Interactive Learning Media

Learning media is any form of tool, means, or technology used to convey learning messages so that learning goals are achieved effectively. Midun (2020) quotes Heinich et al. (2002) that learning media is a tool or channel used to channel messages from teachers to students to create an effective and interactive learning process (Midun 2020). In the modern context, learning media has developed into a form of interactive media, which is a medium that allows users to actively participate in the learning process.

Interactive media combines elements of text, sound, images, animations, and video in one unified system that allows for two-way interaction between users and learning materials. According to Munir (2021), interactive media can increase motivation, understanding, and learning retention because it provides a multisensory learning experience (M. Munir 2021). This is especially relevant for tajweed learning which requires simultaneous recognition of sounds, symbols, and visualization of letters. In a study conducted by Marbun and Pasaribu (2024), the use of Android-based interactive learning media in tajweed learning has been proven to be able to improve student learning outcomes compared to lecture methods (Marbun & Pasaribu 2024). This shows that interactive media is not only complementary, but can also be a key instrument in building meaningful learning experiences for learners.

3.3 Learning Media Development

Learning media development is a systematic process to design, produce, and evaluate learning aids that suit students' needs and learning objectives. According to Sadiman et al. (2020), media development must be based on the principles of effectiveness, efficiency, and attractiveness in order to improve the quality of the learning process (Sadiman, A. S. 2020). In the context of Islamic learning, media development also needs to pay attention to religious values and moral character.

The learning media development process generally follows an instructional design model such as ADDIE (Analysis, Design, Development, Implementation, Evaluation). These stages begin with needs analysis, visual and content design design, product development, application in the field, and evaluation to determine its effectiveness (Simbolon, Suartama, & Mahadewi 2021). Using this approach, the resulting media can be tested for validity, practicality, and effectiveness before being widely applied. In the context of learning the law of nun mati and tanwin reading, the development

of learning media is directed to present a fun and contextual learning experience. As stated by Nrhidayati et al. (2021), good media not only conveys information, but also stimulates students' attention, motivation, and active involvement (Nurhidayati et al. 2023). The use of interactive digital media is able to answer the challenges of tajweed learning which have been considered monotonous and theoretical.

Previous research has shown that the development of audio-visual-based digital learning media can improve the accuracy of pronunciation in reading the Qur'an (Nurhidayati et al. 2023). The results show that the combination of letter visualization and independently repeatable pronunciation examples is very helpful in understanding the laws of reading. Therefore, the development of interactive learning media in this study is directed to create learning facilities that make it easier for students to practice independently, receive quick feedback, and understand the laws of reading through integrated visual and audio simulations. Thus, the development of learning media is not only a technical process of making learning tools, but a pedagogical strategy to improve the quality of interaction between students and tajweed materials. The media developed is expected to be a valid, practical, and effective innovation to assist teachers and students in achieving the goals of learning the Qur'an optimally.

Based on interviews with teachers and students, it was found that tajweed learning has not utilized media that is able to stimulate visual and auditory learning styles. As explained by Munir (2021), learning media function not only as a teaching aid, but also as a bridge between concrete and abstract learning experiences. The tahfidz teacher expressed his desire to have a media that can display examples of reading laws in the form of voices and Arabic letter animations so that it is easier for students to understand. The students also stated that learning would be more interesting if they could interact directly with the material through practice questions and simulations. Thus, the needs analysis confirms that the development of interactive media is very relevant to the learning conditions at the Rumah Tahfidz Zamilatul Qur'an. After going through the revision stage based on the advice of experts, the media was implemented in learning activities at the Tahfidz Zamilatul Qur'an House for two weeks. Observations show that students show high enthusiasm when using the media. They are more likely to distinguish types of reading laws through interactive simulations and audio-based exercises. In interviews, most of the students admitted that they understood the difference between the law of reading nun mati and tanwin better after using the media than when learning with the lecture method. These results show that interactive media has a positive effect on student motivation and understanding.

The results of the research on the development of interactive learning media for the reading laws of Nun mati and Tanwin show that this media has great potential to increase the effectiveness and learning motivation of students in learning tajweed. Several relevant studies support this finding, including: (1) Research by F. Zulkarnain (2019) who developed magic *disc tajweed learning media* for grade VIII Madrasah Tsanawiyah. This media is considered valid by media and material experts and is able to significantly increase student motivation (Zulkarnain 2019). (2) Another research by Al Sinaga (2023) that develops web-based media for the tajweed material of the law of nun mati and tanwin, with a high level of validity and practicality. Positive responses from teachers and students confirmed the effectiveness of this media in learning (Mahisarani, Sinaga, and Anas 2023). (3) Research by HA Alfiyaturohmaniah (2021) also highlights the development of application-based interactive learning media that is able to increase students' motivation and learning outcomes in learning tajwid, including the laws of nun mati and tanwin (Supratno et al. 2021).

In general, the results of the study show that the development of multimedia-based interactive learning media, both web-based and Android applications, is very effective in increasing

students' understanding and motivation of the laws of Nun Mati and Tanwin reading. This media not only improves learning outcomes, but also makes the learning process more interesting and enjoyable.

From the results of the research, interactive learning media received a positive response from teachers and students, showing that interactive media is not only effective but also easy to use. This interactive learning media introduces a more interesting learning approach and allows students to learn independently with interactive media that increases motivation and understanding in learning the laws of reading. This research also emphasizes the importance of developing learning media as a solution to the limitations of conventional media that are less interesting and lack of an interactive learning experience. The results of this study recommend the use of technology-based media in tajweed learning to improve learning outcomes and increase students' interest in learning (Raudyatuzzahra 2022).

This interactive learning media is able to create a more interesting and fun learning atmosphere, thereby increasing the learning motivation of students who previously tended to be passive. This media as an educational technology solution can accommodate various student learning styles flexibly. Overall, the development of interactive learning media makes an important contribution to tajweed learning. Using interactive learning media can function as a tool that is able to convey material visually and interactively, complemented by repetitive exercises that increase students' confidence in reading the Qur'an according to the laws of reading nun mati and tanwin (Zulkarnain 2019). The development of this learning media helps to overcome the limitations of traditional learning media and opens up opportunities for more innovative, effective, and interesting tajweed learning (Malichah Muhtarromah, Zainal Abidin Arief 2021).

The interactive media developed utilizes computer-based or Android technology with interesting features such as Arabic letter animation, audio pronunciation of reading laws, interactive exercises, and automatic evaluation quizzes. The media design is adjusted to the level of understanding of elementary school students, so as to highlight pleasant colors, icons, and sounds without reducing the scientific value of tajweed. Thus, this media is not only informative but also educational and recreative. The results of the trial showed that this interactive media received a positive response from teachers and students. Teachers consider this media to be very helpful in explaining the laws of reading concretely, while students feel that learning becomes more fun and easy to understand. This is in line with constructivist learning theory that emphasizes the importance of hands-on experience and active involvement of students in building knowledge. Media interactivity allows students to learn through practice and direct feedback, not just through memorization.

In addition, the effectiveness of the media can be seen from the improvement of student learning outcomes. Based on a limited trial, the average score of students after using media increased significantly compared to before using media. Students can identify and recite the laws of reading Nun Mati and Tanwin more precisely. This shows that interactive media has great potential in improving the quality of tajweed learning in a practical way. In the context of learning at the Zamilatul Qur'an Tahfidz House, the use of interactive media also plays a role as a means of digitizing Qur'an learning. Teachers are no longer completely dependent on conventional methods, but can integrate technology as an aid that strengthens students' understanding of the correct reading of the Qur'an. With this media, the learning process becomes more effective, efficient, and in accordance with the needs of the all-digital era.

The development of interactive learning media for the law of reading nun mati and tanwin in a descriptive manner shows that this innovation is an effective solution to improve understanding and reading skills of the Qur'an. By using a technology-based interactive media approach, this media

is able to present reading legal material visually and audio, making it easier for students to understand complex reading rules. The use of interactive learning media can increase students' motivation to learn because of the presentation of interesting and interactive material. The development of interactive learning media for the law of reading nun mati and tanwin is an innovation that is able to answer the challenges of tajweed education in a modern, effective, and fun way. The use of interactive media can expand the learning of tajweed in various educational institutions, especially Islamic boarding school-based educational institutions and schools that adopt technology.Although the results were positive, the study also found some obstacles. Some students still find it difficult to use digital devices due to limited experience and facilities at the tahfidz house. In addition, not all students have personal devices, so learning is still carried out in turn. To address this, researchers and teachers provide additional mentoring sessions to introduce how to use media and maximize time for joint practice.

4. CONCLUSION

The development of interactive learning media for *the Law of Reading Nun Mati and Tanwin* is able to increase students' understanding and interest in learning tajwid. This media is designed to present the material visually, audio, and interactively so that it makes it easier for students to recognize and distinguish reading laws such as Idzhar, Idgham, Iqlab, and Ikhfa in a more interesting way. The results of the field trial show that the developed media is suitable for use as a means of learning. Teachers and students give a positive response because this media makes the learning process more effective, efficient, and fun. In addition, the use of interactive media also supports the application of digital technology in Islamic education, especially in learning the Qur'an in the modern era. Thus, this interactive learning media not only functions as a visual aid, but also as an educational innovation that can improve the quality of tajweed learning. Further development is suggested to expand the material on other tajweed reading laws so that the process of learning to read the Qur'an is more interesting and meaningful.

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