
Development of Android-Based TINTA-QU Application for Islamic Education in Elementary School

Mulyana Abdullah¹, Ani Nur Aeni^{*2}, Dini Sahila³, Indri Deniawati⁴, Selina Rizqiany⁵, Ahmad Zaldi⁶

^{1,2,3,4,5}Universitas Pendidikan Indonesia, Indonesia

⁶Universiti Brunei Darussalam, Brunei Darussalam

*Correspondence Address: aninuraeni@upi.edu

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ABSTRACT

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Objectives: This study aims to develop an interactive and engaging Android application prototype called TINTA-QU (At-Tin, Tajwid, Al-Qur'an Hadits Bersamaku) for learning purposes.

Method: This study used an R&D approach with the ADDIE model. It was conducted in an elementary school in the Sumedang region with a sample of 23 fourth-grade students selected purposively. Data were collected through validation by media and subject matter experts, as well as student response questionnaires. Analysis was performed using percentage calculations to determine the feasibility of the application.

Results: The results show that the TINTA-QU application is feasible for use and received positive responses from experts and students. Interactive multimedia features, tajwid content, and character-based Al-Qur'an material increase student motivation and understanding in Islamic Religious Education learning.

Theoretical Contribution: The results of this study support the application of Multimedia Learning Theory in the context of technology-based Islamic Religious Education and reinforce the ADDIE model in the development of digital media based on Smart Apps Creator (SAC) as a platform for elementary school-level Qur'an learning media.

Implication: This application has the potential to support independent learning and increase learning motivation. Further research is recommended to expand the scope of the material.

Keywords:

android application;
islamic learning,
learning media,
ADDIE model.

INTRODUCTION

In educational contexts, digital technology has emerged as an important tool to support inclusive and equitable learning opportunities (Haleem et al., 2022). Technology in education is used as a tool to provide convenience in the learning process (Waton, 2023). The integration of digital technology in the curriculum enables a more personalized learning approach, increases student engagement, and supports lifelong learning (Hasmiza, 2025). The presence of digital technology helps improve access to knowledge, accelerates the delivery of information, and enables a variety of learning methods that better suit learners' needs.

Learning media are among the important components that must be prepared in the learning process (Rosmayanti et al., 2025). Learning media serves as a bridge between educators and students in the process of delivering information, thus helping to clarify material, improve understanding, and create more effective interactions in learning (Aeni et al., 2023). Various forms of learning media allow students to utilize digital media for learning (Aeni et al., 2025). The use of digital media not only allows students to create new things, but also helps them understand learning concepts more easily and interactively, because digital media can provide responses when used (Aeni et al., 2022).

Interactive learning media is designed to attract students' attention and encourage active participation in the learning process (Neha et al., 2023). Its use in the classroom not only facilitates students' understanding of the material, but also fosters higher interest and motivation to learn (Amatullah & Ab, 2024). The use of interactive multimedia may significantly improve students' understanding because it allows information to be delivered visually and audibly the same time (Mayer, 2024). In the field of Islamic Education, interactive learning media provide educators with the opportunity to optimize the mastery of Quran reading skills. Such media also allow for more varied and enjoyable learning, as learners can interact directly with the content presented.

This interaction encourages students to be more focused, exploratory, and reflective toward the material being studied. In the context of Islamic Education, the use of interactive media can also help students develop a deeper understanding of

Islamic values through a more contextual and applicable approach. This is in line with the findings of Sujarwo et al. (2022), which state that Android-based interactive media can significantly improve student learning outcomes through the presentation of interesting and easily accessible material, and by facilitating a fun and independent learning experience. Reading the Quran, especially short surahs, is a basic skill that needs to be mastered by students in the subject of Islamic Education (Wahid, 2023). In this subject, the learning outcomes include several main elements, such as the Qur'an and hadith, akidah, morals, fiqh, and the history of Islamic civilization. In the Quran component, students are expected to be able to read and memorize short surahs or verses properly and correctly. Islamic Education learning in elementary schools emphasizes the importance of the ability to read and memorize short surahs properly and correctly. However, in practice, many students still experience difficulty memorizing these surahs and are not yet able to pronounce hijaiyah letters according to their *makharij* and tajweed rules. (Astuti & Nugraheni, 2021).

Preliminary data obtained through observation and interviews at SDN Santaka showed that problems in Islamic Education learning also occurred at this school. Based on interviews with Islamic Education teachers in grade IV, it was found that more than 60% of students were unable to read Surah At-Tin fluently and correctly according to tajwid rules. Additionally, many students do not understand the meaning of each verse or the moral content of the surah. Teachers also mentioned that the learning process tends to be monotonous and lacks engaging media, resulting in low student interest. Preliminary research results from interviews with teachers at SDN Santaka indicate that current teaching methods still rely on printed textbooks and oral reading in the classroom, without the support of digital media. Teachers recognize the importance of structured digital learning media tailored to the characteristics of elementary school students in order to improve the effectiveness of the learning process. Based on these findings, it can be concluded that the development of the TINTA-QU application is not only a technological innovation, but also an appropriate solution to improve the quality of Islamic Education in elementary schools.

In the field of education, technological advances have a significant impact and become an innovative solution in improving learning effectiveness. Islamic Education teachers in elementary schools need to develop innovative learning media to meet the demands of teaching in the digital era by creating application-based learning media (Susanti et al., 2024). One form of technology implementation in education is the development of digital applications that support the interactive learning process. With this application, students can more easily understand the material, increase their involvement in learning, and gain a more enjoyable and meaningful learning experience (Waton, 2023).

The development of technology-based learning media has become a major focus in efforts to improve the quality of Islamic education, especially at the elementary school level. A study by Priyatna et al. (2024) developed interactive PowerPoint-based learning media for memorizing Surah At-Tin and applying tajweed rules for fourth-grade elementary school students. The results of the study show that the use of interactive media can increase student participation, strengthen understanding of the material, and foster interest in learning the Quran. These findings reinforce the view that interactive learning media can be an effective pedagogical solution, especially in delivering religious material that requires accuracy in reading and pronunciation.

Android applications for Islamic Education have shown effectiveness in increasing student engagement and overcoming the limitations of traditional learning, especially in Qur'an reading lessons (Marwah & Iswandi, 2025). One of the learning models that can be applied is the use of SAC-based applications, which allow students to learn independently and interactively. SAC is a desktop application that allows users to create applications for Android and iOS without the need to write programming code (Shafie et al., 2022). The resulting product is a multimedia-based application. Multimedia applications integrate various elements, such as text, documents, sound, video, and others (Marjuni & Harun, 2019). Some studies show that Android applications are very feasible to use for islamic learning (Hakam et al., 2022).

Android-based applications can be a practical and effective means of Islamic learning. Digital platforms allow learners to develop their Qur'an reading skills with a more flexible and personalized approach and accelerate the process of mastering tajweed (Mardhiah et al., 2022). Considering the great potential of digital technology in Qur'an learning, the TINTA-QU (At-Tin, Tajwid, Qur'an Hadith Bersamaku) application was developed as an innovative Android-based learning medium designed to help elementary school students improve their ability to read the Qur'an, understand tajwid, and explore the content of surah At-Tin and hadith related to friendship.

TINTA-QU offers a more interesting learning method and may increase students' learning motivation in understanding the Qur'an. Through interactive features such as recitation of surah At-Tin, tajweed exercises, discussion of hadith on friendship, animation of the content of surah At-tin and hadith on friendship, and quizzes, students can learn actively and independently according to their own pace and learning style. This study offers novelty compared to research conducted by Nurkholizah et al. (2024), who developed BATITA (Bacaan At-Tin dan Tajwidnya) learning media based on interactive PowerPoint. BATITA has advantages in terms of attractive visual appearance, simple navigation, and the use of animation and audio that support classical tajweed learning in the classroom. The main difference lies in the platform used; BATITA uses PowerPoint format, while TINTA-QU is developed as an Android application that allows more flexible access through mobile devices. In terms of material, BATITA focuses on the recitation of surah At-Tin and the tajweed laws of nun mati and tanwin, while TINTA-QU covers a wider range of material, including verse translations, moral value content, thematic hadith about friendship, as well as interactive quiz features and audio verses.

The difference is also seen in the variables studied: BATITA's research places greater emphasis on media feasibility, while this study not only assesses feasibility but also examines the effectiveness of the media in increasing students' understanding and interest in learning. In terms of research subjects and objects, BATITA was tested on grade IV students at SDN Sukasari, while TINTA-QU was implemented at SDN Santaka, which, based on initial study results, showed a high need for digital learning

media that can be accessed independently by students. A similar study conducted by Adzani et al. (2024) developed a digital learning medium in the form of an interactive e-book called Quranic Quest, which focuses on teaching fourth-grade elementary school students how to recite and study Surah At-Tin. The content covered in this e-book includes: recitation of Surah At-Tin, the meaning of each verse, and moral values. Additionally, the e-book features interactive quizzes, illustrative animations, and audio recitations. Thus, TINTA-QU emerges as a learning media innovation that is more adaptive to technological developments and the students' characteristics in the digital era.

METHODS

Research Design

This study used a Research and Development (R&D) approach with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. This model was chosen because it is systematic and suitable for producing effective and structured learning products.

Procedure

In the first stage (Analysis), an analysis was conducted on the learning objectives of Islamic Education for fourth-grade elementary school students in accordance with the Merdeka Curriculum. The researcher also interviewed Islamic Education teachers at SDN Santaka to identify problems in the classroom, particularly in teaching Surah At-Tin. The second stage (Design) involved planning the content and form of the media. The materials prepared included: verses from Surah At-Tin, rules for noon saakin, tanween and qalqalah, hadiths about friendship, quiz, and validation instruments for media experts, subject matter experts, and students. The third stage (Development) involved creating the media using Canva for visual elements and Smart Apps Creator (SAC) to build the TINTA-QU Android application. After the media was completed, validation was carried out by media experts and material experts. The development results showed that the TINTA-QU application has unique features that support Islamic Education subject. This application is equipped with audio recitation for each verse, interactive tajwid

explanations, as well as moral values and hadiths about maintaining relationships. In addition, there are interactive quizzes with instant feedback, simple navigation through visual icons, and an attractive and responsive interface tailored to student characteristics. This application can also be accessed offline, making it easier for students to learn anytime. Overall, TINTA-QU is an adaptive, interactive, and relevant learning tool in the digital age. The fourth stage (Implementation) involved a trial conducted on Thursday, March 13, 2025, in the fourth grade of SDN Santaka with 23 students. Students used the application and then filled out a questionnaire evaluating aspects such as appeal, appearance, audio, content, language, color, and navigation. The final evaluation was based on the validation results and student responses. The evaluation involved input from media experts, content experts, and students. The goal was to assess the suitability and effectiveness of the media before wider implementation.

ADDIE Model



Figure 1. Research Procedure

Population and Sample

The study was conducted at SD Negeri Santaka, Cimanggung Subdistrict, Sumedang Regency, West Java, Indonesia. The population consisted of all fourth-

grade students, with a sample of 23 students and one Islamic Education teacher selected using purposive sampling.

Data Collection

Data were collected through interviews, observations, documentation, and questionnaires. The instruments used were media expert and material expert validation questionnaires (4-point Likert scale) and student response questionnaires. The instruments were designed based on the following aspects: 1) product suitability; 2) product appearance; 3) ease of access; and 4) positive impact. Content validation was carried out by subject matter and media experts. The reliability of the instruments was not calculated statistically because the focus was on expert validation and limited responses.

Data Analysis

Data were analyzed using percentage formulas. Percentage results were classified into categories of suitability (highly suitable, suitable, moderately suitable, unsuitable) based on specific interpretation criteria to determine the level of acceptance of the developed learning media.

DISCUSSION

During the analysis stage, researchers conducted a needs assessment through a document study of the learning outcomes of fourth-grade Islamic Education in the Merdeka Curriculum and interviews with Islamic Education teachers at SD Negeri Santaka. The analysis results showed that many students had difficulty reading Surah At-Tin with correct tajweed, understanding the content of the verses and hadith, and memorizing them in their entirety. Teachers also mentioned that the teaching methods used were still conventional and uninteresting, which affected students' motivation and understanding of the Qur'an and Hadith material. This situation indicates a need for more interactive, engaging, and contextual learning media. Therefore, the development of Android-based media is a relevant solution to address learning needs that can enhance student participation and understanding comprehensively.

This application has several features in the TINTA-QU application, including the home menu page, which contains developer information, learning outcomes, learning objectives, prayers before and after learning, “My Adventure,” which contains learning materials, “My Activities,” and evaluation. TINTA-QU was developed with a systematic structure, including a series of stages that need to be followed during the manufacturing process. Each step was designed in detail to ensure an organized and efficient workflow.

Here are some of the display features used in the TINTA-QU application:



Figure 2. Initial Display

The home page of the TINTA-QU application shows the Start, Sound, and Hint buttons, which make it easy for users to start learning, adjust the sound, and get usage instructions. The background design uses illustrations of mosques and children's characters to create a friendly and enjoyable learning atmosphere.



Figure 3. Menu Display

The menu page contains feature options such as Developer Profile, Learning Achievements and Learning Objectives, Prayers, My Adventure, and Activities, which can be accessed by users. Each feature displays subfeatures or additional screens according to the selected material or activity.



Figure 4. Developer Display

This page contains information about the developers of the TINTA-QU application, including their names, photos, and brief descriptions of those involved in its development. The purpose is to provide recognition and transparency regarding the parties who contributed to the development of this application.

TINTA-QU, which is designed to improve Islamic Education learning for grade IV elementary school students, focuses on interactive learning of Surah At-Tin, including reading with correct tajweed, understanding the main content of the surah, and implementing its moral messages in daily life. In addition, TINTA-QU also teaches Islamic social values through hadith about friendship, aiming to strengthen social relations between individuals. With multimedia features such as audio, text, and video, the app makes it easy for students to learn and repeat the material anytime and anywhere, enhancing their understanding of Islamic teachings. The app not only introduces students to the tajwid rules and Surah Q.S. At-Tin, but also instills positive character values such as maintaining good relationships with family and friends, being grateful, guarding oneself from sin, always doing good, and giving alms, while making Islamic learning more interesting, fun, and relevant to their daily lives..

Technology-based learning applications such as TINTA-QU provide an interactive, engaging, and accessible platform for students to learn Q.S. At-Tin. Smart Apps Creator software is used to create multimedia content on mobile phones, desktops, and websites (Susanti et al., 2021). The app is equipped with various features, such as animations, videos, and interactive tests, which make the learning process more fun and immersive. TINTA-QU specifically discusses Surah At-Tin, the meaning and main content of the surah, the tajwid laws contained within it, as well as hadith related to friendship. With material presented in an interesting and interactive manner, this application aims to provide a better understanding of Islamic teachings and help students internalize Islamic values in everyday life.

Research was conducted at SDN Santaka, Santaka Hamlet, Mangunarga, Cimanggung District, Sumedang Regency, West Java, Indonesia, on March 13, 2025. Researchers conducted the product feasibility test involving one Islamic Education teacher and 23 fourth-grade students. Before carrying out the activity, researchers provided orientation on how to use the TINTA-QU. During the TINTA-QU trial, none of the 23 students brought their personal gadgets. Therefore, the trial was conducted by displaying the application through an LCD projection in the classroom. Although students did not directly try the application on their respective devices, they still showed high enthusiasm during the explanation and demonstration process of the application.

In addition, students appeared to understand the material more easily and felt that the TINTA-QU learning media attracted their interest in learning the content presented. Furthermore, the researchers conducted the learning process in accordance with the material contained in the media using a laptop and an LCD projector. However, the researchers encountered obstacles during the product trial, namely limited audio output from the application, particularly for students seated at the back of the classroom. This limitation was caused by the unavailability of external speakers.

To assess students' understanding of the material, individual activities were assigned in the form of blank paper sheets used to answer quiz questions displayed on the projector screen. The quiz results indicated an improvement in students' understanding of Surah At-Tin, its main message, the rules of noon saakin and tanween, qalqalah, and hadith about friendship, as reflected in the high scores obtained. In contrast, during regular classroom learning, many students were previously unfamiliar with general aspects of Surah At-Tin, its main message, the rules of noon saakin and tanween, qalqalah, and hadith about friendship. After completing the individual activities, students proceeded to group activities, during which the researchers divided them into five groups. Subsequently, to facilitate the reading of Surah At-Tin, the researchers conducted a group-based reading test, in which each group took turns reading the surah verse by verse.

The final activity involved students completing the product assessment. The researcher distributed the assessment questionnaire to all students. The students completed the assessment questionnaire voluntarily and without any coercion. In addition, product assessments were also completed by Islamic Education teachers at SDN Santaka. The assessment served as a reference for determining the feasibility of using the TINTA-QU Android application in Islamic Education at the elementary school level.

To determine the feasibility of the developed learning media, the researchers requested evaluations from media experts using an assessment instrument consisting of 20 statements rated on a 1–4 scale; the experts were lecturers teaching Islamic Education Seminar courses.

Tabel 1. Results of product assessment by media experts

NO	DESCRIPTORS ASSESSMENT	SCORE			
		1	2	3	4
PRODUCT SUITABILITY					
1.	Product design is in accordance with the characteristics of students				√
2.	The color used is in accordance with the material content				√
3.	The figures/images used are in accordance with the material content				√
4.	The font size is appropriate (not too big and not too small)				√
5.	Typeface is appropriate for the age of the students in that phase/grade				√
PRODUCT DISPLAY					
6.	Attractive product design				√
7.	The picture looks clear				√
8.	Attractive color composition				√
9.	Sound/audio is clearly audible				√
10.	Product comes with how to use				√
EASY ACCESS					
11.	Product is easy to use				√
12.	The buttons on the product are functional				√
13.	There are various menus that can be accessed by users				√
14.	The product can be used anywhere				√
15.	The product is child-friendly				√
GOOD IMPACT					
16.	Product design can motivate students to do good				√
17.	Product design can motivate students to study hard				√
18.	Product design can motivate students to care about others/environment				√
19.	Product design can motivate students to improve the quality of worship				√
20.	Product design can motivate students to increase the intensity of worship				√
Total					80
Acquisition Score					80
Score					100%
Interpretation					Very Feasible

The total media score obtained across all aspects was 80 out of 80. Based on the data obtained, it can be concluded that the TINTA-QU application achieved a percentage score of 100%, categorized as very feasible..

Table 2. Results of product assessment by material experts

NO	DESCRIPTORS ASSESSMENT	SCORE			
		1	2	3	4
MATERIAL SUITABILITY					
1.	Suitability of material with learning outcomes				√
2.	Suitability of material with learning objectives				√
3.	Suitability of material with student characteristics				√
4.	The suitability of the material with the subject matter taught in class				√
5.	Appropriateness of the material to the phase/ class				√
MATERIAL PRESENTATION					
6.	Material presentation is easy to understand				√
7.	The language used in the material content is easy to understand				√
8.	The material content presented is clearly legible				√
9.	The material content presented is clear in meaning				√
10.	The material content is sufficient (not too much or too little)				√
WRITING					
11.	The writing of the Quran/Hadith text has no errors			√	
12.	The writing of the material text has no typos				√
13.	Material content is accompanied by reference sources				√
14.	The writing of the material text pays attention to the use of capital letters				√
15.	The writing of the text pays attention to the provisions on the use of punctuation				√
GOOD IMPACT					
16.	Contains material that encourages students to have good character				√
17.	Contains material that encourages students to study hard				√
18.	Contains material that encourages students' curiosity				√
19.	Contains material that encourages student empathy				√
20.	Contains material that encourages students to make good habits				√
Score				3	76
Acquisition Score					79
Score					98.75%
Interpretation				Very Feasible	

The total material score obtained across all aspects was 79 out of 80. Based on the data obtained, it can be concluded that the TINTA-QU application achieved a percentage score of 98.75%, categorized as very feasible.

Table 3. Assessment results by students

Total Score	Interpretation	Frequency Students
14	Feasible	4
15	Very Feasible	14
16	Very Feasible	5
Total		23

Based on the table above, among the 23 students who provided ratings, the majority gave a total score of 15 out of 16 (13 students), and 6 students gave a perfect score of 16. This indicates that the learning media was considered highly acceptable by most students, with good overall quality in terms of appearance, language, audio, and material.

However, based on evaluations from media and material experts, several suggestions for improvement were identified to make the application more optimal in supporting learning. Media experts recommended including the class or phase on

the cover and aligning the wording of the learning outcomes (CP) with the applicable curriculum. Meanwhile, the material expert suggested adding Latin transliteration under the Arabic text so that students who are not fluent in reading the Qur'an can still understand the content of the reading, as well as providing color variation to clarify the appearance and facilitate learning. This evaluation is a valuable input for the development and improvement of the TINTA-QU application, so that it can better suit the needs of students and be more effective in supporting learning.

Researchers presented data in the form of a frequency table of scores to obtain a clearer picture of student learning outcomes after participating in learning using the TINTA-QU application. This table includes the distribution of multiple-choice scores obtained by students, the number of students in each score category, and the minimum passing score (KKM) set at 70. The presentation of this table aims to facilitate data interpretation, identify trends in student achievement, and determine the proportion of students who have achieved mastery and those who still need additional help. Thus, this score frequency table becomes the basis for analyzing student understanding after using the TINTA-QU application in learning.

Table 4. Frequency of student assessment

Total Score	KKM	Frequency Students	Completeness
90	70	13	Complete
80	70	5	Complete
70	70	2	Complete
60	70	2	Incomplete
50	70	1	Incomplete
Total		23	

Based on the data in the table, most students achieved the learning mastery level, with 20 students classified as complete. Meanwhile, the three students who did not achieve the minimum mastery criterion require additional assistance to optimize their understanding of the material. Meanwhile, the 3 students who have not achieved the minimum completion rate require further assistance so that their understanding of the material can be optimal. Overall, these results indicate that the use of the TINTA-QU application is able to enhance students' comprehension.

TINTA-QU (At-Tin, Tajwid, Al-Qur'an Hadith Bersamaku) is an interactive Android-based learning application developed to support Islamic education at the elementary school level, with a special focus on Surah At-Tin. This product has the following features: 1) Audio recitation per verse; 2) Interactive Tajweed explanations (focusing on noon saakin, tanween, and qolqolah); 3) Moral values derived from the surah, accompanied by hadiths about maintaining relationships; 4) The application also includes an interactive quiz with 10 questions; 5) Simple navigation with child-friendly visual icons and a colorful, responsive design suitable for elementary school students; 6) Its main advantage is offline access, enabling flexible learning without requiring an internet connection.

Compared to similar media such as BATITA and Quranic Quest, TINTA-QU offers advantages. BATITA is still limited to a PowerPoint format and focuses on tajwid, while Quranic Quest, as an interactive e-book, does not yet include gamification features, offline access, or character integration (Nurkholizah et al., 2024). TINTA-QU provides a more comprehensive learning experience through a combination of character education, interactive evaluation, and audio-visual support in a single mobile platform.

This innovation contributes to Multimedia Learning Theory by demonstrating how well-structured and contextually relevant digital content can enhance understanding and engagement in religious education (Mayer, 2024). Furthermore, this research enriches the Islamic education model by providing practical character-based digital learning tools that are in line with modern pedagogical needs and Islamic values.

The results of this study are in line with the multimedia learning theory by Mayer (2024), which emphasizes that the use of media that combines visual and auditory elements can improve students' comprehension of the material. TINTA-QU successfully applied this theory through the presentation of material in the form of Qur'anic verses, translations of each verse, tajweed rules, surah-related videos, and interactive quizzes. This success is also reinforced by the results of research by Aeni et al. (2025) and Priyatna et al. (2024), which show that interactive digital media can increase student engagement and understanding in Islamic learning. Furthermore,

the development of this application also reflects the principles of constructivist theory, in which students are actively involved through exploratory features that allow them to build knowledge independently and contextually (Aeni et al., 2025). This is reflected in the improvement in quiz results conducted after the implementation of the media (Nisa & Khozain, 2023). This is also supported by student feedback, which shows high enthusiasm for the learning methods used.

TINTA-QU product is relevant to the concept of holistic Islamic education, which emphasizes not only cognitive aspects, but also affective and psychomotor aspects, as emphasized by Wahid (2023) regarding the importance of character education in Islam. Character education is a process of forming students' personalities holistically through cognitive, affective, and psychomotor aspects influenced by family, school, and social environments (Muhtar & Dallyono, 2020). Character education is an essential aspect of education and should be taught from an early age until college level (Hariyono & Huda, 2023). Character education not only focuses on shaping students' attitudes, but also teaches practices that are in accordance with Islamic teachings.

Along with the development of technology, learning media is now increasingly varied, allowing students to utilize digital media in the learning process. Media, according to Ponza et al. (2018), is anything used by someone to convey messages or information. According to Kusumawati (in Purwanti & Fanani, 2024), Interactive digital media has a positive influence. The use of digital media not only helps students understand learning concepts more easily and interactively, but also provides a more engaging and responsive learning experience.

From an Islamic education perspective, the development of the TINTA-QU application contributes to the formation of Islamic character in students through the study of Surah At-Tin. This application not only trains reading and tajwid skills, but also instills character values such as faith, gratitude, honesty, justice, friendship, and responsibility. These values are reinforced by the hadith about maintaining relationships. TINTA-QU reflects a holistic Islamic educational approach that encompasses cognitive, affective, and psychomotor aspects (Lubis et al., 2025). Through interactive features, students not only understand concepts but also

internalize Islamic teachings in an engaging and contextual way. This is in line with Hariyono and Huda (2023) who view that digital media can be an effective tool in Islamic character education in the technological age.

The implementation of the TINTA-QU application at SDN Santaka received a very positive response. Although students were unable to access the application independently due to device limitations, the display via infocus was still able to attract their attention and improve their understanding. The assessment results from 23 students showed that the majority of students gave high scores to the TINTA-QU application, so that it was categorized as “very feasible” by almost all students. Only a small number of students gave scores in the “acceptable” category, but this still showed positive acceptance. The TINTA-QU application also received very positive responses from Religious Education teachers as subject matter experts. Based on the results of the material assessment questionnaire, this application achieved a score of 98.75% and was categorized as highly suitable. This high assessment shows that the content presented, ranging from the reading of Surah At-Tin, explanations of tajwid, to the meaning and hadith, has met the standards of suitability for Religious Education material at the elementary school level.

In addition, the results obtained from the evaluation questions given after the lesson also showed that students were able to understand the religious education material in the Surah At-Tin chapter well. This can be seen from the students' scores, where most of them scored 90 or above the minimum passing grade, and only three students scored below the minimum passing grade. These findings reinforce that the use of the TINTA-QU application not only attracts students' attention but also has a real impact on improving their understanding of the Surah At-Tin reading, tajwid rules, and meaning. Thus, the combination of student assessment data and evaluation results provides clear evidence that the TINTA-QU application effectively supports the religious education process and helps students achieve the specified competencies. Overall, TINTA-QU is highly suitable as a learning tool, in line with research by Parhan and Sutedja (2019), which states that technology can be an effective tool in improving the quality of Islamic education that is contextual, enjoyable, and contemporary.

The contribution of this research to Islamic education can be seen from the ability of the TINTA-QU application to strengthen the process of learning to read the Qur'an, tajwid, and reinforce Islamic values at the elementary school level. The development of this application not only helps students read Surah At-Tin correctly, but also enriches learning through the use of audio, visuals, animations, and interactive quizzes. Previous research shows that digital media effectively improves the ability to read and memorize the Qur'an because it provides both visual and audio stimulation (Mardhiah et al., 2022). In addition, TINTA-QU also promotes Islamic character education by conveying important values from Surah At-Tin, such as human dignity, justice, gratitude, and moral responsibility, which are supported by hadiths about the importance of maintaining social relationships.

Current Islamic education research shows that digital media can support the contextual and meaningful application of Qur'anic values (Wasito, 2022). This application also increases student interest and engagement due to its attractive appearance, simple navigation, and child-friendly design (Sujarwo et al., 2022; Susanti et al., 2024). Thus, TINTA-QU functions not only as a learning aid but also serves as an innovative example in technology-based Islamic Education learning that encourages independent learning, the formation of Islamic character, and the strengthening of Multimedia Learning theory (Nurdewanto et al., 2018). This research also expands modern Islamic education practices that combine science, technology, and Islamic values into a comprehensive and integrated learning model.

CONCLUSION

The results of the study indicate that this application is feasible for use, based on assessments from media and material experts, as well as positive responses from students. The main findings indicate that the use of audio, visuals, animations, and interactive quizzes can improve students' understanding of the reading of Surah At-Tin, tajwid rules, and the Islamic values contained in the surah and hadith included. This application also increases students' attention, motivation, and engagement in learning, even though the trial was conducted in a classroom setting without the use of personal devices. This study reinforces Mayer's multimedia learning theory, which

can be used to instill the Islamic values contained in Surah At-Tin. This theory also states that a combination of text, audio, images, and interactive activities can increase the effectiveness of student learning in the context of religious education, especially in teaching the Qur'an and character values. This application provides an alternative medium for religious education that is in line with technological developments and the characteristics of today's students. Teachers can use TINTA-QU as the main or supplementary teaching material in learning to read and write the Qur'an, understanding tajwid, and instilling Islamic values. The limitations of this study lie in its scope, which is still limited to one material (Surah At-Tin) and one grade (fourth grade elementary school), and no long-term testing has been conducted to determine the sustainable impact of using the application. Therefore, further research is recommended to develop TINTA-QU for other Quranic materials, and test its effectiveness across various grade levels.

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