Development of Mobile Learning-Based Learning Media for Rhyming Materials at SDIT Wildan Mukholladun Blitar Regency

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Abstract: This study aims to develop a poem learning media based on Mobile Learning designed for fifth-grade elementary school students. The method employed is research and development (R&D) using the ADDIE model, which includes analysis, design, development, implementation, and evaluation stages. The media was created using Google Sites and accessed via QR codes, containing learning materials, instructional videos, and assessment tools. Validation by content experts, media specialists, and teachers indicated that the media is highly suitable for use in learning. The results of validation from material experts obtained a percentage of 93.75%, the validation of media experts obtained a percentage of 85%, and validation by users obtained an average percentage of 94.3%. The small-scale practicality trial obtained a percentage of 100%, then the large-scale trial obtained a percentage of 98.8% where p = both were included in the "Very Practical" category. Practicality tests on both small and large scales showed excellent results, with high levels of usability and engagement. The media was found to be effective in enhancing students' interest and understanding of poem material, while also offering an enjoyable and interactive learning experience.

Keywords: Learning Media, Mobile Learning, Poetry

PRELIMINARY

Education plays a crucial role in preparing qualified individuals to compete in the current era of globalization. (Rahman et al., 2022) State that education is a deliberate and structured effort to nurture students' potential, both spiritually, intellectually, and skills. Ki Hajar Dewantara emphasized that education guides children's potential to grow optimally for personal happiness and social benefit (Efendy, 2023). According to Schunk's theory of behaviorism, education is a change in behavior due to an individual's interaction with his or her environment (Amarulloh et al., 2019). Therefore, education can be concluded as a conscious effort to develop individual potential through learning that results in changes in behavior, knowledge, and skills.

Basic education aims to develop the fundamental abilities, attitudes, and skills of children aged 6–12, who typically have strong memory and high curiosity (Sarima et al., 2020). Schools also function as institutions for cultural and social transformation, where a supportive and comfortable environment both in terms of interpersonal relationships and physical conditions greatly influences student learning, character development, and academic success. A conducive environment fosters positive character traits and enhances the learning process. Based on Jean Piaget's theory, children aged 7–11 are in the concrete operational stage, where they can think logically about real, tangible objects but struggle with abstract ideas. As they reach the age of 11 and older, they enter the formal operational stage and begin to understand abstract concepts and formulate hypotheses (Nelwati & Rahman, 2022). However, many teachers still rely on conventional methods such as textbooks, which often result in monotonous learning and passive students. Therefore, teachers must be more innovative in utilizing engaging and relevant learning media to stimulate students' interest and facilitate understanding. Learning media not only aids in material delivery but also helps students grasp concepts more effectively through the use of concrete, supportive objects (Ilhami, 2022).

Learning media is a tool or means used by teachers to present material in an interesting method to increase students' interest in learning. According to Musfiqon, learning media can be physical or non-physical which functions as an intermediary between teachers and students to facilitate the understanding of the material effectively and efficiently (Dewi, 2023). Learning media must be made in a variety of ways to meet all needs or ways of learning for students (Fitriani et al., 2024). Learning media can be categorized into print and electronic, as well as text, visual, audio, video, real objects, models, and multimedia. This media can be applied to all subjects, including Indonesian, to increase students' interest and understanding of the material.

Indonesian is taught in elementary schools in the National Education Regulation of the Republic of Indonesia Number 22 of 2006 aimed at forming good communication skills, fostering a proud attitude towards the national language, and increasing intellectual and literary appreciation (Muhammad Ibn Mubarok et al., 2024). One of the forms of literature taught is rhyme. Pantun is the main material in elementary school in the form of an old poem consisting of 4 lines, with lines 1 and 2 as sampiran, and lines 3 and 4 as content. Each line has 8-12 syllables and rhymes a-b-a-b (Experimental, 2021). Poetry

material is very suitable to be developed as a learning medium because it can train students' writing, reading, speaking, and creative skills. However, many teachers still use books or YouTube videos that make students bored. Therefore, effective learning innovations are needed to make the learning process more enjoyable. Learning innovations need to keep up with the times, especially by utilizing technology. One of these innovations is Mobile Learning (M-Learning), which is learning that uses mobile devices such as smartphones, tablets, and laptops (Ahmad Sasmito, et al., 2021). *Mobile learning* allowing students to access the material anytime and anywhere, thereby increasing learning independence without being limited by space and time (Samsinar, 2021). Android-based mobile learning innovations overcome learning obstacles due to distance and limitations that hinder the face-to-face learning process.

SDIT Wildan Mukholladun Blitar Regency is one of the schools that has not maximized the use of technology in its learning process. Based on the results of a direct interview conducted on December 10, 2024 with grade V teachers of SDIT Wildan Mukholladun Blitar Regency, problems were found in the Indonesian language learning process of rhyme material. This problem is in the form of a lack of interest and enthusiasm for students in learning because Indonesian learning media in schools only uses textbooks and paper media. Based on field observations carried out, SDIT Wildan Mukholladun Blitar Regency already has an internet network in the form of Wi-Fi and LCD projectors that can be used by teachers to support technology-based learning using *mobile learning* in the classroom.

Research on the development of mobile learning-based learning media has been conducted by (Widiastika, Hendracipta, Syachruroji, Sultan, & Tirtayasa, 2021) on thematic learning in grade IV elementary school with the validation results of 96.4% of media experts and 91.7% of material experts, showing that the media is valid and suitable for use. Hadi Hardiansyah and Umi Sumiati (2022) also developed Mobile Learning learning media in science learning to improve the learning outcomes of elementary school students as seen from the increase in students' post-test scores. In addition, Viqa and Maryam (2024) also researched and developed rhyme monopoly media (Monotun) to improve the rhyme writing skills of grade V elementary school students, the results of this study are that Monotun learning media is feasible and practical with a practicality value of 92% and is stated to be very feasible and very practical to use. All of these studies

are relevant because they use similar methods and indicators, and prove the effectiveness of Mobile Learning-based rhyming material learning media.

This mobile learning-based learning media enable students to learn interactively using smartphones to scan the QR-Code displaying rhyme material. Based on the needs and previous studies, this study developed the learning media for class V of SDIT Wildan Mukholladun Blitar Regency, with products that are valid according to experts and practically used, aiming to support a more effective and interesting learning process.

This study aims to provide theoretical contributions to the development of Android-based learning media while offering practical benefits for educators, learners, and educational institutions. Specifically, the objectives of this research are to develop innovative learning media that integrate technology to support effective and enjoyable learning experiences, and to enhance student motivation and engagement, particularly at the primary school level. The main product of this study consists of 12×7 cm learning cards embedded with QR codes that link to various digital content such as instructional materials, educational videos, and assessment tasks. All resources are developed using digital tools such as Canva, InShot, and Google Sites, and are formatted in HTML to ensure accessibility via mobile devices. The benefits of this research include providing a more interactive and engaging learning experience for students, offering creative and ready-to-use teaching aids for teachers, and serving as a model for the integration of digital technology in the learning process for educational institutions. Through this innovative approach, the study contributes to the development of mobile learning strategies and demonstrates the practical application of educational technology in primary education.

METHOD

This research and development aims to produce Mobile Learning-based rhyming learning media for grade V elementary school students. The method used is R&D with the ADDIE model, whose advantage lies in evaluation at each stage to minimize errors in the product (Muziatun, 2022). The ADDIE model consists of five stages, namely Analysis, Design, Development, Implementation, and Evaluation (Cahyadi, 2019). According to (Sabdarini, Egok, & Aswarliansyah, 2021), the ADDIE model is suitable for the development of various products, including methods, models, learning strategies,

as well as teaching media and materials, so it is suitable for the development of this Mobile Learning learning media.
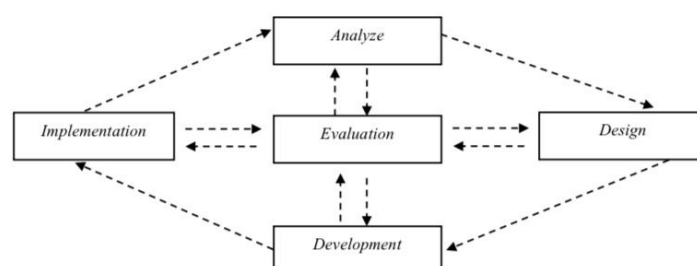

Figure 1. ADDIE Development Model

The ADDIE model in this study starts from the Analyze stage, which is to identify the learning needs and characteristics of grade V students of SDIT Wildan Mukholladun, Blitar. Information was obtained through observation of the school environment, interviews with homeroom teachers, and questionnaires to explore students' interest in learning media. The results of the analysis became the basis for the Design stage, which included the preparation of Mobile Learning-based media storyboards, the preparation of materials and questions, the creation of rhyming videos, uploading content to Google Sites, converting links into QR Codes, and designing QR cards using Canva.

The Development stage is carried out by printing initial media, consulting with supervisors, and validating by material experts, media experts, and user teachers. After being revised, the media was tested at the Implementation stage, starting from a small scale with 6 students to find out technical errors, then a large scale with 26 students to measure practicality. The results of the student questionnaire are used for product improvement. Finally, the Evaluation stage is carried out with a final revision based on expert and teacher advice. The product is reviewed to be suitable for use as an innovative learning medium and according to the needs of students.

This research uses qualitative and quantitative approaches. Qualitative data was obtained through observations, interviews, and input from teachers and experts. Quantitative data comes from the results of media validation by experts and teachers, as well as practicality tests by grade V students of SDIT Wildan Mukholladun. Data sources include teachers, students, subject matter experts, and media experts. The trial was carried out in stages, namely small-scale (10 students) and large-scale (26 students).

Data collection techniques include observation of school conditions and learning obstacles, interviews with homeroom teachers on December 10, 2024 related to rhyme learning problems, and the distribution of questionnaires. The questionnaire is used to identify student characteristics, assess the feasibility of the media, and measure practicality during the trial. The validation grid involves three assessors: subject matter experts, media experts, and teachers. Subject matter experts assess content, language, scope, and presentation based on the accuracy of the concept and the relevance of the learning objectives. Media experts evaluate the appearance, design, and visualization of content according to the characteristics of the students. Teachers assess practical aspects such as ease of use, suitability of content with classroom conditions, and media display. The validation results are used to refine the product before the trial.

The practicality questionnaire was given to grade V students of SDIT Wildan Mukholladun, Blitar Regency, as users of learning media. The goal is to measure the feasibility and practicality of Mobile Learning-based rhyming material learning media. The practicality questionnaire grid for students is compiled based on aspects of ease of use, student involvement, and the effectiveness of media in supporting learning.

The user validation grid by students includes three main indicators that assess the feasibility of learning media from a practical perspective. First, the suitability of the material presented is assessed to ensure that the content of the media supports students' understanding of the topic being studied. Second, ease of access and use is a benchmark for whether media can be operated independently by students without technical barriers. Third, the attractiveness of the display and content is considered so that the media is able to attract students' interest in learning and increase their involvement during the learning process.

The assessment uses a Likert scale with a score range of 1–4, which is assessed through a checksheet (Sugiyono, 2019). The Likert scale score is used to assess the feasibility of a media based on the number of descriptors that appear. If there are three descriptors, it is scored 4 (Excellent); two descriptors score 3 (Good); one descriptor is rated 2 (Poor); and if no descriptor appears, it is given a score of 1 (Not Good), according to the guidelines from Sugiyono (2019).

The scores from the validation sheets were summed and analyzed using the Akbar (2017) formula.

$$Vah = \frac{Tse}{Tsh} \times 100\%$$

Information:

Vah = Expert validation

Tse = Total empirical score achieved

Tsh = Total expected empirical score

This formula is used to measure the feasibility of learning media based on the assessment of material experts, media experts, and users. The results determine whether this Mobile Learning-based rhyme material learning media is suitable for use or needs revision, referring to the eligibility criteria from Akbar (2017).

According to Akbar (2017), the level of eligibility is classified into very valid (85.01–100%), quite valid (70.01–85.00%), less valid (50.01–70.00%), and invalid (01.00–50.00%). Smart Card-based Mobile Learning Media is considered feasible if the score is ≥70.01%, and needs revision if it is ≤70%. The practicality test used the Guttman scale with the choices "Yes" (1) and "No" (0) according to Sugiyono (2019).

The Guttman scale is used to assess the practicality of media through the answers "Yes" (score 1) and "No" (score 0), with dichotomous assessments that facilitate analysis (Sugiyono, 2019). Practicality data were obtained from students' responses to Mobile Learning-based rhyming material learning media and analyzed using the Akbar (2019) formula which is presented as follows.

$$Vp = \frac{TSEp}{Smax} \times 100\%$$

Information:

Vp = practicality validation

TSEp = Total practical empirical score

Smax = maximum expected score

The analysis of the practicality questionnaire aims to assess the extent to which the learning media of mobile learning-based rhyming materials is practically used by students. Assessment refers to the criteria of Akbar in (Kumalasani, 2018), with categories: very practical (75.01–100%), fairly practical (50.01–75.00%), less practical (25.01–50.00%), and impractical (0.00–25.00%). This percentage determines whether the media can be used directly or needs revision (Akbar in Kumalasani, 2018).

Based on the results of the analysis above, it can be concluded that the learning media of mobile learning-based rhyming materials is considered practical if it obtains a score of $\geq 50.01\%$. However, if the score obtained $\leq 50\%$, then the media needs to be revised to meet the expected standards of practicality in supporting the learning process.

RESULTS

This research aims to develop a mobile Learning-based rhyming material learning media for grade V students of SDIT Wildan Mukholladun. Development is carried out using the ADDIE model which includes five stages: 1) Analyze, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation. Each stage is equipped with an evaluation to ensure product quality and minimize errors.

1) Analyze Stage

In the initial stage, an analysis of the needs and characteristics of students is carried out to ensure that the media developed is in accordance with the needs of students. This analysis was carried out on December 10, 2024 at SDIT Wildan Mukholladun.

a) Needs Analysis

Field observations and interviews with the homeroom teacher of class V, Mrs. Asvin Novalina, S.Pd, showed that Indonesian learning still uses conventional media such as worksheets and paper media. This causes students to feel bored and less motivated in the learning process. The school has technology facilities in the form of a Wi-Fi network and two LCD projector units that can be used for technology-based learning. The teacher stated the need for technology-based interactive learning media that can increase students' interest in learning, especially in rhyme materials.

b) Student Characteristics Analysis

The questionnaire was distributed to 26 grade V students to explore students' interest and readiness for the use of technology-based learning media. The results of the questionnaire showed that the majority of students liked Indonesian subjects and rhyme material. This finding was supported by the student learning achievement data, which indicated that 17 out of 26 students, or approximately 65%, obtained scores below the minimum mastery criterion (KKM) of 80 in the rhyme topic. For example, several students such as Akbar Kalimi (78), Gading Happy Trianggoro (74), Rini

Wahyu Novianti (76), and Anggita Frieskha Putri (78) scored below the threshold, indicating a limited understanding of the material. Most students feel bored with conventional learning methods that are only lectures and books. All students are able to use technology devices such as mobile phones and tablets, and welcome the use of Mobile Learning-based learning media.

The following table summarizes the results of the interviews and questionnaires conducted:

Table 1. Results of Interviews and Observations of Learning Media Needs

Observed Aspects	Findings
Media used today	LKS books and paper media (conventional)
Student response to learning	Often feeling bored and less motivated
Availability of technology facilities	School Wi-Fi, 2 projectors (1 permanent, 1 flexible)
Learning needs	Interactive, innovative, and technology-based media
Teacher's response	Supporting the development of Mobile Learning-based learning media

Table 2. Recapitulation of Questionnaire Results for Characteristics of Class V Students

Yes	Statement	Number of Students (N=26)	Percentage (%)
1	Loves Indonesian subjects	15 students	57,7%
2	Feeling bored during Indonesian lessons	15 students	57,7%
3	Like rhyme material	24 students	92,3%
4	Not understanding the structure, types, and mandate of rhymes	24 students	92,3%
5	I don't like it if the teacher just explains without the media	21 students	80,8%
6	Can use a mobile phone/tablet	26 students	100%
7	Happy to learn using technology (HP/tablet)	26 students	100%
8	Approved the Mobile Learning-based rhyming learning media to be developed	26 students	100%

2. Design Stage

Based on the results of the analysis, the planning stage is focused on the preparation of interactive Mobile Learning-based rhyming learning media. The first step is to create a storyboard that depicts the plot and appearance of the media. The main menu is designed to display the title "Learning Media" with navigation buttons such as start, home, back, and next. The material includes the definition of rhyme, structure, characteristics, types, examples, steps to make, and how to read rhyme.

Practice questions are provided in the form of individual and group quizzes to facilitate student learning evaluation.

Furthermore, the creation of learning videos is done using the Canva and Inshot applications. Canva was chosen for the ease of creating animations and organizing content, while Inshot is used to add attractive dubbing and backsongs to make videos more interactive and less boring. The finished video is uploaded to the YouTube channel and then uploaded to the Google Sites platform as a learning platform. The content is accessed by scanning the QR Code printed on the Smart Card, which is designed using Canva for an attractive look.

a) **Media Creation Using the Google Site Platform**

The creation of Mobile Learning-based learning media is carried out through the Google Sites platform with an interactive and visual approach that is suitable for elementary school students. The first image shows the initial stage of template selection, where the researcher chooses a "blank site" in order to adjust the design according to the learning needs. The second image shows the main page equipped with an opening video and navigation buttons for easy access to various content. In the third picture, pages of material that have been classified thematically, such as the meaning of rhyme, types, and examples of rhymes, are displayed, using attractive illustrations to increase the attractiveness of students.

Figure 2. Template Selection

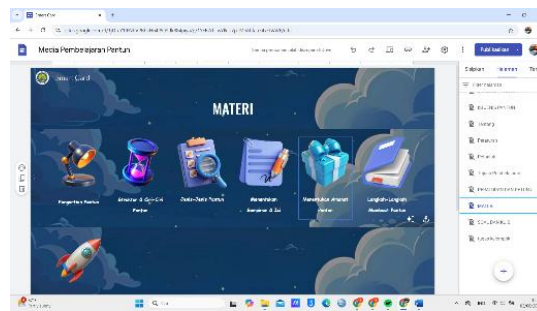**Figure 3. Addition of Learning Opening Video**

Figure 4. Creating Main Menu Page Points

The fourth image shows the insertion of an animated video from YouTube that shows examples and how to read rhymes, reinforcing students' visual comprehension. Next, the fifth image shows a quiz page consisting of two sections: group assignments and individual evaluations, each connected to an external platform through the Google Sites insert link feature. Finally, the sixth image shows the appearance of media that has been reviewed and ready to be published online, after all materials, navigation, and multimedia have been checked and declared feasible. This media will then be shared via a link to be used in the learning process.
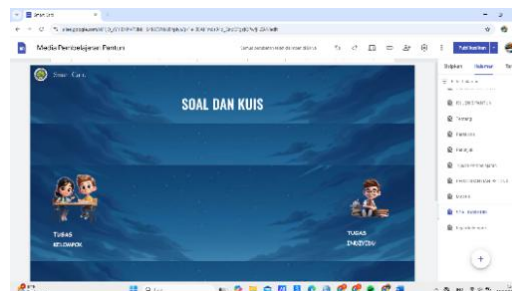

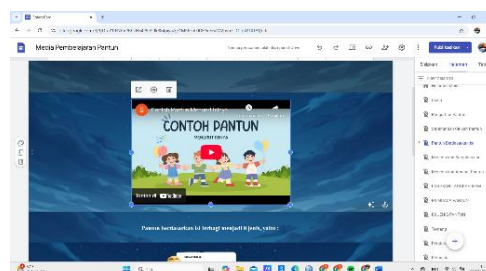**Figure 5. Adding Sample Videos from Types of Poems**

Figure 6. Entering LKPD and Evaluation Questions

Figure 7. Reviewing the Learning Media Overview

b) QR Code Creation

The creation of a QR-Code for mobile-based rhyming learning media begins with accessing the QR-Code Generator site and logging in. After selecting the "Website" option, the Google Site link is entered and then click the "CREATE" button. The resulting QR-Code is then adjusted to a simple model and frame for easy scanning. The final step is to download the QR-Code in PNG format, which is further used as quick access to learning materials via mobile devices.

3) Development

The Development Stage includes the final results of the learning media that has been developed as well as validation data from experts. The products produced are in the form of mobile learning-based rhyming material learning media; a) Material validation was carried out by Dr. Renda Yuriananta, M.Pd., a lecturer at FIP State University of Malang, on May 8, 2025. The validation results are shown in the table in the next section as proof of the feasibility of the material content.

Table 3. Material Expert Validation Results

No.	Assessment Aspects	Max Score	Scores Obtained	Present indicator (%)	Criterion
1.	Suitability of Material Content	4	3	100%	Quite valid
2.	Scope of Material	4	4	100%	Very valid
3.	Language/Communication	4	4	75%	Very valid
4.	Presentation of Materials	4	4	100%	Very valid
Validation Result 16 15 93.75% Very valid					
Installment 93.75%					
Category			Highly Valid		
Results Can be used without minor revisions					

The validation results from Dr. Renda Yuriananta, M.Pd., showed that the mobile learning-based rhyming media for class V scored 15 out of 16 (93.75%), including the category of being very valid and suitable for use without major revisions. However, there are suggestions for improvement in the types of rhymes to be more in line with the understanding of grade V students.

The validation of media experts was carried out by Dr. Erif Ahdhianto, S.Pd., M.Pd., a lecturer at FIP State University of Malang, on May 7, 2025. The results of the

validation of mobile learning-based rhyming learning media will be presented in the table in the following section as the basis for assessing the feasibility of media.

Table 4. Media Expert Validation Results

No.	Assessment Aspects	Score Max	Scores Obtained	Present indicator (%)	Criterion
1.	Learning Media	4	4	100%	Very valid
2.	Media Display	4	3	75%	Quite valid
3.	Language/Communication	4	3	75%	Very valid
4.	Presentation of Materials	4	3	75%	Quite valid
5.	Comprehensive View	4	4	100%	Very valid
Validation Results 20 17 85% Sufficient					
					Valid
Installment-installment 85%					
Category				**Quite Valid**	
Results Can be used with minor revisions					

Based on the validation of Dr. Erif Ahdhianto, S.Pd., M.Pd., mobile learning-based rhyming media for class V received a score of 17 out of 20 (85%), including the category of being quite valid and suitable for use with minor revisions. Suggestions for improvement include improving the appearance and adjusting the material is delivered in accordance with the students level of comprehension. Overall, this medium is decent to use with minor improvements.

User validation was carried out by Mrs. Asvin Novalina, S.Pd., a grade V teacher at SDIT Wildan Mukholladun, on May 23, 2025. This assessment is aimed at assessing the feasibility of mobile learning-based rhyming learning media from the perspective of direct users. The validation results are presented in the table in the following section as the basis for evaluating the use of media in the classroom.

Table 5. Validation of the Scope of Material by Users

No.	Assessment Aspects	Score Max	Scores Obtained	Present indicator (%)	Criterion
1.	Suitability of Material Content	4	4	100%	Very valid
2.	Scope of Material	4	4	100%	Very valid
3.	Language/Communication	4	3	75%	Quite valid
4.	Presentation of Materials	4	4	100%	Very valid
Validation Result 16 15 93.75% Very					
					valid
Installment 93.75%					
Category				**Highly Valid**	
Results Can be used without minor revisions					

Table 6. Validation of Media Coverage by Users

No.	Assessment Aspects	Score Max	Scores Obtained	Present indicator (%)	Criterion
1.	Learning Media	4	4	100%	Very valid
2.	Media Display	4	4	100%	Very valid
3.	Language/Communication	4	4	100%	Very valid
4.	Presentation of Materials	4	4	100%	Very valid
5.	Comprehensive View	4	3	75%	Quite valid
Validation Results 20 19 95% Very					
					Valid
Installment-installment 95%					
Category				**Highly Valid**	
Decision Can be used without revision					

User validation by Mrs. Asvin Novalina, S.Pd., a teacher of grade V SDIT Wildan Mukholladun, showed that the mobile learning-based rhyming learning media obtained a score of 93.75% for the quality of the material and 95% for the media aspect, both in the category of very valid.

The media was declared suitable for use without major revisions, although there were suggestions for improvements such as color variations and fonts to make them more attractive to students. After the entire validation process by material experts, media experts, and users is completed, the media is revised and re-evaluated according to the input provided.

4) Implementation

At the implementation stage, two product trials were carried out, namely small-scale and large-scale trials. A small-scale trial of mobile learning-based rhyming learning media was carried out on May 12, 2025 involving 10 grade V students of SDN Jatilengger 01 who had different cognitive abilities. The activity began with a briefing so that students understood the use of media, followed by group divisions, media access through QR-Code, and watching a one-minute instructional video. Students then use the media to read the material, watch learning videos, and work on group assignments that are presented in turn. After that, students work on individual questions and fill out a practicality questionnaire. The results of the questionnaire showed a 100% positive response on all aspects, including ease of use, interest, clarity of instructions, easy-to-understand language, and enthusiasm, so that the media was declared very practical and feasible without the need for revision.

Furthermore, a large-scale trial was carried out on May 23, 2025 with 26 students in grade V of SDIT Wildan Mukholladun using similar procedures, such as briefing, group division, and providing smartphones and QR-Codes to access media. Students watch instructional videos, use the media to learn, do group assignments, present results, work on individual questions, and fill out practicality questionnaires. The results of the questionnaire in this trial showed an average practicality score of 98.8%. Although a small percentage of students (11.6%) felt a little confused in the use of media, all other aspects received full positive marks. The media is still considered very practical and suitable for use without the need for major revisions.

Overall, the results of these two trials confirm that mobile learning-based rhyming learning media is very effective and easy to use by grade V students. Although there was some confusion about large-scale trials, it did not reduce the feasibility of the media. Therefore, this media is ready to be widely implemented with further evaluation for further refinement.

5) **Evaluation**

After the implementation stage is completed, an evaluation of mobile learning-based rhyming learning media for class V is carried out. However, evaluations from experts provide some important inputs for improving the media to be more effective and attractive to students.

The material expert validator recommends adjusting the scope of the material and evaluation questions to be more in line with the basic competencies set. Meanwhile, media expert validators suggested adding videos for instructions for use, videos on how to read rhymes, and icons that clarify the types of rhymes. In addition, the user teacher proposes color and font variations to make the media look more attractive. The revision will be carried out by considering input from supervisors, material experts, media experts, and teachers to improve the quality of learning media as a whole.

DISCUSSION

This research aims to develop a learning media for mobile learning-based rhyming materials for grade V students of SDIT Wildan Mukholladun Blitar Regency. Based on the results of the research, the media developed has been proven to be valid, practical,

and effective to be used as an interesting and interactive learning alternative. This media answers today's learning needs that demand the use of technology, as well as paying attention to the characteristics of students who are enthusiastic about digital devices but less motivated in conventional learning.

The results of the needs analysis showed that students had a high interest in Indonesian subjects, especially rhymes, but lacked an in-depth understanding of the material. This strengthens the urgency of developing technology-based media that is able to present learning in a fun and easy-to-understand manner. Therefore, the media was developed in the form of a card containing a QR-Code that is connected to the Google Sites-based Mobile Learning platform, containing learning videos, materials, and evaluations that can be accessed through mobile devices. The design of this media is in line with the theories of Emiyati & Kurniawan (2022) and Sudjana (Untari, 2017), which emphasize the importance of learning media to clarify information and increase the effectiveness of the learning process.

The Mobile Learning-based media developed utilizes the principles of flexible and independent learning through mobile devices as explained by (Silahuddin et al., 2022) and (Pangalo, 2020). The results of validation by material experts (93.75%) and media experts (85%) show that the media is very suitable for use with minor revisions. Validation from the user teacher is also high, with a material quality score of 93.75% and the media aspect of 95%. This shows that the product not only meets the standards of feasibility but is also well received by educational practitioners in the field.

Media trials are carried out on a small and large scale. In the small-scale trial, the media obtained a 100% practicality score from 10 students of SDN Jatilengger 01, while a large-scale trial on 26 students of SDIT Wildan Mukholladun showed an average practicality score of 98.8%. These findings are in line with the results of previous research by (Widiastika et al., 2021), Viqa and Maryam (2024), and Hadi Hardiansyah et al. (2022) which stated that Mobile Learning is effective in improving learning outcomes and learning practicality. The combination of using Smart Cards such as those carried out by Miftakhul Efendi (2024) and Diyana & Fitri (2022) has also been proven to be able to improve students' skills in writing and understanding rhymes.

The use of mobile learning-based rhyming material learning media that inserts QR-Code provides a more interesting and interactive learning experience. Students can

access the material independently in a fun way, eliminating the monotony of learning. The characteristic of pantun as an old poem that has elements of entertainment as well as a moral message (Kosasih & Kurniawan, 2016; Apriansah et al., 2018) are very suitable to be conveyed through a multimedia approach. This strengthens the effectiveness of the media in developing students' literary literacy skills while increasing appreciation for Indonesian culture.

With the results obtained, this learning media has proven to be able to be an alternative learning solution that is in line with technological developments and student needs. Product improvements are also carried out based on the suggestions of experts and teachers, such as adjusting the type of rhymes according to the level, adding icons and instructional videos, and variations of fonts and colors to attract students' attention. This step shows that the development process is not only focused on the finished product, but also on continuous evaluation to improve quality across the board.

Overall, this research contributes theoretically to the development of mobile learning-based rhyming material learning media that is effectively used in literary learning, especially rhyme. Practically, this product provides real benefits for teachers in delivering material interactively and for students in understanding the material in a fun way. The media product produced is a 12x7 cm card with a QR-Code connected to Google Sites containing videos, materials, and evaluation questions. Designed in HTML format to be easily accessible via mobile devices, this media provides a flexible, engaging, and meaningful learning experience for elementary school students.

CONCLUSION

This research succeeded in developing a mobile Learning-based rhyme learning media for grade V students of SDIT Wildan Mukholladun Blitar Regency. This media is designed to increase students' understanding and interest in rhyme materials through an interactive technology-based approach. The results of validation by material experts, media experts, and teachers show that the media is very feasible to use, while the results of the practicality test by students show that the media is easy to use and interesting. These findings prove that the developed media is not only valid in terms of content, but also effective and practical to be applied in Indonesian learning at the elementary school level. The integration of technology, literary materials, and interactive learning methods

through QR-Code provides learning solutions that are relevant to the characteristics of today's students. As a follow-up, this media can be further developed in the form of an Android app or extended to other literary materials such as fairy tales or poetry. Further research is also recommended to test the long-term impact on students' literacy skills and literary appreciation.

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