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Development of Bacaria Learning Media (Cheerful Reading) in the Indonesian Language Subject for Grade 1 Students of MI Al Fatah Sumberjo

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Abstract

This study aims to develop digital learning media Bacaria (Ceria Reading) in Indonesian language subjects to improve the initial reading skills of first-grade students of MI Al-Fatah Sumberjo. The study used the Research and Development (R&D) method with the ADDIE model which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. The research subjects consisted of first-grade students of MI Al-Fatah Sumberjo. Data collection techniques were carried out through observation, interviews, validation questionnaires, and user response questionnaires. The product developed was an interactive learning application that contained materials on recognizing letters, vowels and consonants, reading syllables, reading simple words, and interactive activities equipped with images and audio pronunciation. The results showed that the Bacaria media obtained a high level of feasibility based on validation by media experts of 70% (valid), material experts of 93.75% (very valid), and language experts of 87.5% (very valid). In addition, teacher responses to the use of the media obtained a percentage of 94.4% with a very practical category, while student responses obtained a percentage of 98.8% with a very practical category. These results indicate that Bacaria media is feasible, practical, and can be used as an alternative learning medium to help improve students' beginning reading skills. Therefore, Bacaria has the potential to be an effective learning medium to support Indonesian language learning in early elementary school or Islamic elementary schools.

Keywords: *Digital Learning Media, Bacaria, Beginning Reading, ADDIE, Indonesian.*

1. Introduction

Education is a planned effort to develop students' potential so that they possess the knowledge, skills, attitudes, and character competencies necessary for social life (Ichsan, 2021). One of the basic competencies that underpins successful learning is reading literacy. Reading skills play a crucial role in helping students understand information, develop knowledge, and support successful learning in various subjects (Greenleaf et al., 2023). The OECD defines reading literacy as the ability to understand, use, evaluate, and reflect on written texts to achieve goals and actively participate in society. Therefore, reading skills need to be developed from elementary school, particularly during the early reading phase.

Early reading is a fundamental skill that elementary school students must master as it is a prerequisite for studying various academic fields (Center, 2020). However, various studies indicate that Indonesian students' reading literacy skills are still relatively low. Lavil & Adela (2024) stated that elementary school students still experience difficulties in comprehending what they read (Lavil & Adela, 2024). Similarly, Rofi'i and Susilo (2022) found that some first-grade elementary school students still experience difficulties recognizing letters and reading syllables fluently (Rofi'i & Susilo, 2022). This condition impacts students' low ability to participate in the learning process and understand material in other subjects.

Similar problems were found at MI Al-Fatah Sumberjo. Initial observations showed that the beginning reading abilities of first-grade students varied. Of 21 students, only 10 were fluent readers, while the remaining 11 still had reading difficulties, and some students were even unfamiliar with letters. Furthermore, the learning process was still dominated by conventional methods and less interactive learning media, which tended to make students easily bored and less motivated to learn to read.

The use of engaging learning media that suited the characteristics of students is one alternative to addressing these issues (Abdulrahaman et al., 2020). According to Rosadi and Karimah (2022), learning media can increase students' attention, interest, and motivation to learn (Rosadi & Karimah, 2022). Meanwhile, Yusnaldi et al. (2025) explained that the right media can help students understand the material more easily and create meaningful learning experiences (Yusnaldi et al., 2025). The development of digital technology also opens up opportunities to present more interactive learning media to optimally support the beginning reading learning process.

Several previous studies have developed digital learning media to improve early reading skills. Zahro and Sukartiningsih (2022) found that Android-based applications can increase students' interest and early reading skills (Zahro & Sukartiningsih, 2022). Other research also shows that interactive digital media can increase student motivation and engagement in reading (Li & Chu, 2021). However, most of this research focuses on testing the media's effectiveness in improving learning outcomes, while aspects of product development, including validity, practicality, and feasibility, have not been comprehensively examined. Furthermore, there are few studies developing early reading media that integrate letter recognition, syllable reading practice, word reading, and simple sentence construction in a single application specifically designed to meet the needs of first-grade students in Islamic elementary schools.

Based on these studies, a research gap exists in the form of limitations in previous research that emphasizes the effectiveness of digital media without thoroughly examining the product's validity and practicality. Furthermore, there are still limited early reading learning media that provide comprehensive and integrated reading learning stages tailored to the characteristics of lower-grade students. To address this gap, this study developed Bacaria (Membaca Ceria), an interactive application-based learning media featuring letter recognition, syllable reading practice, word reading, and simple sentence construction. The novelty of this research lies in the application development, which integrates all stages of beginning reading into one interactive medium, and product testing, encompassing validity and practicality, resulting in a suitable medium for use in Indonesian language learning in first-grade Islamic elementary schools.

Therefore, this study aims to develop the Bacaria (Membaca Ceria) learning media for first-grade Indonesian students at MI Al-Fatah Sumberjo and to test the feasibility of the developed media as a supporting tool for beginning reading learning.

2. Research Methods

This research employed the Research and Development (R&D) method with the ADDIE development model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation (Rahayu, 2025). The ADDIE model was chosen because it has systematic stages and is appropriate for developing application-based learning media (Norouzkhani et al., 2025). The product developed in this research is the Bacaria (Membaca Ceria) application, an interactive learning medium to improve the beginning reading skills of first-grade students in Islamic Elementary Schools.

The research was conducted at MI Al-Fatah Sumberjo. The subjects consisted of first-grade students as the primary users of the media. Product trials were conducted in two stages: a small group trial involving 10 students to determine the practicality of the media and obtain initial feedback on the product, and a field trial involving 21 first-grade students to measure the effectiveness of using the Bacaria application in beginning reading instruction.

The analysis phase was conducted through observation, teacher interviews, and documentation studies to identify beginning reading learning needs, student characteristics, and ongoing learning conditions (Alam, 2021). The analysis showed that some students still had difficulty recognizing letters, reading syllables, and reading simple words, while the media used was still limited to textbooks. Based on these findings, an application plan was developed during the design stage, covering letter recognition, syllable reading, simple word reading, and simple sentence reading, complemented by images, audio, and interactive exercises.

During the development stage, the application design was realized into a ready-to-use product. The product was then validated by media experts and subject matter experts to assess the suitability of the application's content, appearance, and functionality. The validators' suggestions and input were used as the basis for revisions before the product was implemented with students. Next, the implementation stage involved using the Bacaria application in

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Indonesian language learning for beginning reading. The evaluation phase was conducted using formative and summative methods to assess the product's quality based on validity, practicality, and effectiveness.

The research data consisted of quantitative and qualitative data (Costigliola, 2019). Quantitative data were obtained through expert validation questionnaires, student response questionnaires, and pre- and post-test results on beginning reading skills. Meanwhile, qualitative data were obtained from observations, interviews, and comments and suggestions from the validators. Data collection techniques used included observation and questionnaires.

The research instruments consisted of validation sheets from subject matter and media experts, student response questionnaires, and a beginning reading ability test. All instruments used a four-level Likert scale with a scoring range of 1–4.

Data analysis was conducted using descriptive quantitative and qualitative methods (Taherdoost, 2022). Validity and practicality data were analyzed using percentages using the formula:

NV = (Total score obtained / Maximum score) × 100%

Table 1. product validity criteria

Percentage (%)	Validity Category
80–100	Very Valid
60–79	Valid
40–59	Fairly Valid
20–39	Less Valid
0–19	Invalid

The effectiveness of the Bacaria media was analyzed based on a comparison of pretest and posttest results of students' beginning reading skills. The media was declared effective if there was an increase in learning outcomes after students used the Bacaria application in the learning process.

3. Results and Discussions

Results

3.1. *Initial Product Development Process*

The product developed in this study is the Bacaria learning media for first-grade Indonesian language students at MI Al-Fatah Sumberjo. The development model used was the ADDIE approach. The initial product development results were obtained after going through the following five ADDIE stages:

3.1.1. *Analysis*

The analysis stage is the initial step in the ADDIE model, which aims to identify learning needs, student characteristics, and the media requirements to be developed. This stage serves as the basis for determining the direction of product development to align with the learning challenges and needs in the field.

Based on the results of a preliminary study at MI Al-Fatah Sumberjo, it was discovered that the school had implemented the Independent Curriculum. Analysis was conducted through observations and interviews with first-grade teachers. The results indicated that some students still had difficulty recognizing letters, distinguishing letter sounds, and reading syllables fluently. This condition impacted their early reading skills, necessitating the need for more engaging and effective learning media.

Analysis of student characteristics indicated that the students were aged 6–7 and in the concrete operational stage. At this stage, students more easily understand material presented through images, colors, audio, and activities that involve direct interaction. Furthermore, students were highly curious, enjoyed play, and were more attracted to visual and interactive learning media. However, students' reading abilities varied, necessitating media that could accommodate their differing learning abilities. The student needs analysis revealed that students require engaging,

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interactive, easy-to-use learning media that can facilitate the gradual learning process of reading. These media are expected to help students recognize letters, understand the relationship between letters and sounds, read syllables, and read simple words more easily. Furthermore, the media should support independent learning through a combination of text, images, and audio.

The media needs analysis revealed that teachers lack specific media for early reading instruction and are still using conventional methods that are less engaging. Furthermore, there is a lack of digital application-based learning media that can support the development of early reading skills. Based on this analysis, the BACARIA (Ceria Reading) application was developed, a digital learning medium that combines text, images, audio, and interactive activities. This media is designed to suit the characteristics of elementary school students and is expected to improve the motivation and early reading skills of first-grade students at MI Al-Fatah Sumberjo.

3.1.2. *Design*

After analyzing the students' problems and needs, the next stage is designing the Bacaria application. The steps taken at this stage are as follows:

- Determining learning objectives
- Designing the display (storyboard), including: the opening page (main menu), the letter recognition menu, the vowel recognition menu, the consonant recognition menu, the syllable reading menu, the consonant reading menu, the word reading menu, and the word composing menu.
- Determining visual elements: attractive images, colors, and clear fonts.
- Organizing materials according to the beginning reading stage

3.1.3. *Development*

The media developed in this study was the Bacaria application, designed to improve the beginning reading skills of first-grade students at MI Al-Fatah Sumberjo. The development phase involved realizing the application design into a product using the Construct 3 tool. This process included creating a display layout, adding visual elements such as images and text, compiling materials, syllables, and simple words, and setting up interactive features such as navigation buttons and pronunciation audio. After the application was developed, the product was validated by validators consisting of material experts, linguists, and media experts to assess its feasibility, appearance, and content suitability. The validation results were used as the basis for revising and refining the Bacaria application before it was piloted with students. In this study, the media expert was Ms. Aulia Fajar Khasanah, M.Pd., the language expert who validated the Bacaria media was Ms. Uci Ulfa Nur'afifah, M.Pd., and the material expert who validated the developed Bacaria media was Ms. Ririn Setyowati, M.Pd.

The Bacaria media display is as follows:



Figure 1. Home menu display on the Bacaria application



Figure 2. Display of the level selection menu

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Figure 3. Contents of the level 1 menu for recognizing the letters of the alphabet from A-Z



Figure 4. Contents of level 2 recognizing vowels



Figure 5. Contents of level 3 recognizing consonants



Figure 6. Contents of level 4 reading syllables



Figure 7. Contents of level 5, reading dead consonants into a word

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Figure 8. Contents of level 6 reading words



Figure 9. Contents of level 7 composing words

3.1.4. *Implementation*

During the implementation phase, the Bacaria media was tested on first-grade teachers and first-grade students at MI Al-Fatah Sumberjo. The Bacaria application was introduced by the researchers themselves to the first-grade teachers and students, who then answered a questionnaire administered by the researchers to determine user responses to the feasibility of the developed media. The following are the responses from teachers and students:

Table 2. Results of Teacher Responses to the Developed Bacaria Media

Assessment Aspect	Assessment Criteria	Score	Category
Media Assessment	The learning media is attractive, clear, and easy for students to understand.	4	Strongly Agree
	Ease of use of the learning media.	3	Agree
Material Assessment	The material presented is appropriate and relevant to the learning objectives.	4	Strongly Agree
	The material is presented in an easy-to-understand manner.	4	Strongly Agree
	The concepts presented are simple and easy to comprehend.	4	Strongly Agree
Language Assessment	The text in the learning media is readable and understandable.	4	Strongly Agree
	The language used complies with standard Indonesian language conventions.	4	Strongly Agree
	The language used is appropriate and easy for students to understand.	4	Strongly Agree
	The sentences used are simple and understandable.	3	Agree
Total Respondent Score		**34**	
Maximum Score		**36**	
Percentage Obtained		**34/36 × 100 = 94.4%**	
Category		**Very Practical**	

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A product trial with first-grade teachers was conducted once by examining data from teacher responses to the developed media. Data percentages were calculated based on the scores for each first-grade teacher's responses. The questionnaire consisted of 9 questions with 4 rating scales, resulting in a maximum score of 36 (9 questions x 4). The results of first-grade teachers' responses to the developed media, along with their percentages, are as follows.

$$NV = \frac{\text{Total scores obtained}}{\text{Maximum score}} \times 100\ \%$$

$$\frac{34}{36} \times 100 = 94,4$$

From Table 2. and the calculations above, the results of the responses of group A teachers in the trial stage gave a respondent score of 34 which is 94.4 percent, and is included in the "Very Practical" category. He suggested, "Researchers should study further about mastery in the classroom." He added, "The product developed is very worthy to be tested on students." The trial was carried out directly with 21 students which began with an introduction to the media, how to use it, and ended with filling out a questionnaire on behalf of their teachers. The results of the student response questionnaire are explained in Table 2.

Table 3. Results of Student Responses to the Developed Bacaria Learning Media

No.	Statement	Score
1	I like practicing reading using the Bacaria learning media.	4 × 21 students = 84
2	The Bacaria learning media is more interesting than other learning media.	4 × 21 students = 84
3	The images and color selection in the Bacaria learning media are attractive.	4 × 21 students = 84
4	I can easily understand how to read with the help of the Bacaria learning media.	3 × 8 students = 24; 4 × 13 students = 52; **Total = 76**
5	Bacaria makes learning to read more enjoyable and less boring.	4 × 21 students = 84
6	The Bacaria learning media is easy to use.	4 × 21 students = 84
7	Bacaria increases my motivation to learn.	4 × 21 students = 84
8	Bacaria makes me enthusiastic and engaged in reading lessons.	4 × 21 students = 84
	Total Respondent Score	**664**
	Maximum Score	**672**
	Percentage Obtained	**664/672 × 100 = 98.8%**
	Category	**Very Practical**

The product trial with students was conducted once by analyzing the data from the results of student responses to the developed media. The percentage of data was calculated based on the score of each answer from eight student responses. The questionnaire used consisted of 8 statements with 4 rating scales. Each table above contains the results of the sum of the scores from 21 students, so the maximum score for each table is 84 (4 × 21 children), with a total maximum score from 21 children of 672. The calculation is as follows:

$$NV = \frac{\text{Total scores obtained}}{\text{Maximum score}} \times 100\ \%$$

$$\frac{664}{672} \times 100 = 98,8$$

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Based on Table 3. and previous calculations, the results of student responses to the developed media obtained a percentage of 98.8%, which is included in the "Very Practical" category. Based on the trial results, the Bacaria media for the Indonesian language subject for grade 1 is considered interesting; it has images, animations, and vocabulary that are clear enough to read and understand, so that further trials are not necessary. The developed Bacaria media can be used as a learning medium for students and teachers.

3.1.5. *Evaluation*

The evaluation stage is the final stage in the ADDIE model, which aims to assess the feasibility and quality of the developed Bacaria learning media. The evaluation was conducted to ensure that the media aligns with the learning objectives of early reading and the needs of students.

The evaluation process was conducted through validation by media experts, material experts, and language experts. The validation results showed that Bacaria received a 70% valid rating from the media experts, a 93.75% very valid rating from the material experts, and an 87.5% very valid rating from the language experts. These results indicate that Bacaria meets the requirements for appearance, content, language, and ease of use, making it suitable for use in learning.

In addition to expert validation, the evaluation also involved questionnaires from teachers and students. Teacher responses showed a 94.4% very practical rating, while students received a 98.8% very practical rating. Teachers rated Bacaria as easy to use and able to support the early reading learning process, while students expressed high enthusiasm due to the media's engaging images, audio, and interactive activities.

Based on the overall evaluation results, Bacaria was declared suitable for use as a learning medium for beginning reading for first-grade students at Al-Fatah Elementary School, Sumberjo. These findings demonstrate that Bacaria is not only valid in terms of media, materials, and language, but also received positive responses from teachers and students.

Discussions

The Bacaria application is a digital learning tool developed to help improve the early reading skills of first-grade students at MI Al-Fatah Sumberjo. This tool was developed based on a needs analysis, which showed that some students still experience difficulty recognizing letters, reading syllables, and reading simple words. Furthermore, the limited use of learning media, often limited to textbooks, makes the learning process less engaging for students.

Bacaria is designed in stages, starting with the introduction of the alphabet, vowels and consonants, reading syllables, and reading simple words. This tool combines text, images, audio, and interactive activities to help students understand the relationship between letters and sounds and gradually develop reading skills. In addition to helping improve reading skills, the attractive and interactive display also increases students' motivation and interest in learning.

Validation results indicate that Bacaria has a high level of feasibility. Validation by media experts resulted in a 70% (valid), by material experts 93.75% (very valid), and by language experts 87.5% (very valid). These results indicate that the developed tool meets the requirements for appearance, content, language, and ease of use. Furthermore, teacher and student responses were very positive. Teachers considered Bacaria to be helpful in the early reading learning process, while students felt more engaged and enthusiastic because the material was presented through an engaging combination of images, text, and audio.

The study results also showed that the use of Bacaria was effective in improving students' early reading skills. Improvements were seen in letter recognition, syllable reading, and simple word reading after using the media. These findings align with various previous studies that have shown that digital application-based learning media can improve early reading skills, learning motivation, and student learning outcomes because the material is presented interactively and engagingly.

However, this study has several limitations, including the lengthy application development process, the researchers' limited experience using Construct, and the pilot test, which was conducted in only one school, making

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the results difficult to generalize widely. Furthermore, the application's use also depends on the availability of supporting devices such as laptops or smartphones.

Despite these limitations, Bacaria has several advantages: it presents reading material interactively through a combination of images, text, and audio; it can be used independently or with teacher guidance; it has an attractive and easy-to-use interface; and it can be used repeatedly as a practical and efficient learning tool. Thus, Bacaria is worthy of being used as an alternative learning media to improve the initial reading skills of elementary school or madrasah ibtidaiyah students.

4. Conclusion

This research successfully developed the digital learning media Bacaria (Ceria Reading) to improve the early reading skills of first-grade students at MI Al-Fatah Sumberjo using the ADDIE model, which includes analysis, design, development, implementation, and evaluation. Bacaria was designed to meet the needs and characteristics of students by presenting interactive and engaging materials on letter recognition, syllables, simple words, supporting images, and pronunciation audio. Validation results showed that Bacaria had a high level of feasibility. Media expert validation achieved a 70% valid rating, material expert validation achieved a 93.75% very valid rating, and language expert validation achieved a 87.5% very valid rating. These results indicate that Bacaria is suitable for use as a learning medium for early reading. Furthermore, the trial results showed a very positive response from teachers and students. Teacher responses achieved a 94.4% very practical rating, while student responses achieved a 98.8% very practical rating. These findings indicate that Bacaria is easy to use, engaging, and able to increase student motivation and engagement in the learning process. Thus, Bacaria can be used as an alternative effective learning media to support the improvement of early reading skills in elementary school students, especially early grades.

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