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DEVELOPING A SMART APPS CREATOR APPLICATION USING THE INSTITUTION WORD METHOD TO ENHANCE EARLY READING SKILLS IN YOUNG LEARNERS

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Abstract

Good reading skills are in demand for elementary school students, but the facts in the field prove that elementary school students' initial reading is still relatively low. So, this is a challenge that can cause learning difficulties. Learning media is still not optimally used during the learning process. This research aims to develop, test the feasibility, and test the results of the effectiveness of the smart app creator educational application media using the institutional word method to improve the initial reading skills of grade 1 school students. This research uses Research and Development (R&D) created by Sugiyono. The test subjects were 22 students of class 1A SDN kalibanteng Kidul 03 Semarang City. The smart app creator application consists of several components: the star page, instructions for use, main menu, introduction menu, material menu, quizizz menu, let us try the menu, practice menu, and developer profile menu. This study's results show the feasibility test results of 93% of media experts and 96.15% of material experts with very feasible criteria. The results of the media effectiveness test using the paired test obtained a significant value of <0.001. The result of the N-Gain calculation was obtained with a value of 0.7277 in the high category. Therefore, the study's can be concluded that the smart app creator educational application using the institutional word method is feasible and effective in improving the initial reading skills of grade I students.

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INTRODUCTION

Indonesia's education system underwent a significant curriculum transformation in mid-2022. Throughout its history, curriculum implementation in Indonesia has experienced various changes and refinements, culminating in the current adoption of the Merdeka Curriculum (Mariska et al. 2024). Formal education, particularly at the elementary school level, serves as a structured learning environment aimed at fostering children's potential for growth and development across the nation. Elementary school students are often characterized by a high level of curiosity, which can sometimes result in learning challenges, especially during periods of curriculum transition.

To help people succeed in life, educators make a concerted effort to assist students in all facets of their personal growth (Elviana et al. 2022). As a country's educational level reflects its progress, primary school is essential to Indonesia's formal education system . Primary schools are included for formal and institutional basic education (Tri Wahyuni Sophi et al. 2024). Children's potential and development are encouraged in primary school, especially in language development, which is crucial for everyday communication and learning. Students are required to have four language abilities: speaking, writing, listening, and reading. The cornerstone of human speech and linguistic ability is these skills, which must be incorporated into the

elementary school curriculum to improve learning outcomes. Human development and life skills depend on reading (Tri Wahyuni Sophi et al. 2024)

Mastering Indonesian is essential to a successful learning experience in teaching reading. As a communication tool, language facilitates understanding of the subject matter being taught. Indonesian is a required course at every school level, even elementary school. A crucial ability required for pupils to succeed academically is reading proficiency. Students with fluent reading skills can better understand and process informationClick or tap here to enter text. (Ani 2024). Different grade levels get different reading teaching; lower-grade students concentrate on beginning reading, which introduces them to the fundamentals of literacy, while higher-grade students focus on reading comprehension, which helps them comprehend and evaluate text (Pujiarti Titi et al. 2024).

According to the Programme for International Student Assessment (PISA), which assesses student performance worldwide, Indonesia's reading proficiency is ranked 74th. Also, according to UNESCO data, Indonesia ranks second in the world in terms of literacy (Nafiah 2020). This emphasizes the importance of enhancing reading education for various school levels. To prevent reading comprehension delays, teachers have difficulty because many elementary kids still struggle with early reading.

According to observations and conversations with first-grade teachers, students have trouble starting to read. According to learning results, only 35% (10 out of 22 students) meet the Learning Completeness Criteria. Their average score of 68.50 falls short of the desired score of 70. This problem results from several factors. On the inside, students lack motivation to read, have trouble focusing, lose interest quickly, and develop at various speeds. Inadequate teaching strategies and a lack of educational resources externally hamper student advancement (Amorim et al. 2020).

Many students still struggle to meet learning targets, highlighting the challenges of early reading. To address this, educators can integrate innovative teaching media to support young learners. As technology evolves, incorporating digital tools becomes essential to enhance reading skills in early education (Bornman J et al. 2020). Combining educational materials with play-based learning methods is good because first-graders learn best via play. Children still have a strong connection to play at this developmental stage and frequently find it difficult to concentrate when studying (Lailis Sa'adah Nur et.al 2023).

Technology is an essential aspect of education in the digital age, especially when teaching reading. The impact of communication and technology breakthroughs is apparent in every subject, particularly education. Digital Android is one technological breakthrough that helps students and teachers by being an effective learning tool (Nurhikmah et al. 2023) Multimedia, animation, graphics, and audio are digital learning resources that improve educational experiences. In order to help primary school pupils who struggle with reading, researchers plan to introduce interactive multimedia. Interactive multimedia aggressively engages students, boosting their interest and comprehension, which makes it a successful learning tool, claims (Sari et al. 2022). Researchers will create an intelligent app maker as part of their multimedia program by implementing learning strategies that address the reading characteristics of pupils, especially the institutional word technique. In order to maximize learning objectives and efficiently support the learning process, this program functions as an educational tool.

Reading comprehension, which includes word decoding and language skills, is an important aspect of education and everyday life. Foundational skills such as phonological awareness and letter-sound knowledge play a major role in early reading success. Despite their importance, early literacy learning often remains limited, prompting interest in utilising educational technologies that offer interactive and adaptive features to enhance learning. This study aims to fill this gap by systematically reviewing empirical research on the effectiveness of educational technology in supporting early literacy development (Bautista, G.F et al. 2024).

According to (Aini and Sukartiningsih 2022), Smart App Creator is a media platform that generates inventive and imaginative educational applications without programming. To boost motivation for learning, boost enthusiasm for learning, and help solve learning outcomes issues about first-grade students' reading abilities, researchers created the smart app creator application, a learning medium in the form of applications for laptops and smartphones that are as entertaining as possible. In line with (DeForte S et al. 2020), this Android-based media combines text, sound, and visuals to suit student needs. Choosing the right method and media is key to improving early reading skills.

Prior studies demonstrate how well the smart app developer software works to enhance learning outcomes. For instance, studies that create educational games based on local knowledge reveal that students' concept mastery is 75.10%, making it an excellent category to enhance elementary school pupils' beginning reading skills (Khasanah l.A.I.U et al., 2023). Similar findings have been found in using smart app makers to create learning materials for listing games that enhance learning outcomes for second-grade kids (Mulya Wati, Huda, and PGRI Semarang 2022). The study is also pertinent to research by (Aini and Sukartiningsih 2022), which uses an innovative app designer to create interactive multimedia in order to produce validity results that demonstrate the validity of the material and media, making it appropriate for usage in educational settings. The backing of earlier studies can enhance the research findings to be developed.

The primary goal of this research is to enhance early-stage reading skills by creating an application with a smart app developer. The primary goals of this study are to (1) create an application product, (2) test the product to ascertain its viability, and (3) assess the product's efficacy in enhancing children's early reading abilities through the analysis of learning outcomes. A learning strategy designed to address the issues with early reading utilizing the institutional word technique is combined with creating this clever app maker application. The institutional word strategy must be used to make reading easier for kids to overcome the traits of those who are not yet fluent readers. The word institute approach was used in earlier studies, and the findings showed that it enhanced the learning outcomes of primary school pupils' beginning reading abilities. The study's findings, which revealed a noteworthy 15.8% rise, demonstrate how engaged and interested students are in playing with words utilizing the institutional word technique. Previous research also confirms the findings of the study conducted by (Yunita Citra, Sudjoko, and Ulfa Maria 2021), which concluded that the Word Institute technique is a very legitimate and effective way to improve early reading skills. The study's findings, which show an 84.8% completion rate, support this.

The development of smart app creator educational applications using the institutional word method aligns with seeking the benefits of technology in education. As time goes by, digital devices are increasingly experiencing updates; this affects the potential changes in teaching and learning that are growing. Utilizing technology as a learning medium can create a meaningful student learning experience. In addition, using technology utilization by developing learning media can last a long time and be applied repeatedly. It is flexible and can be used anywhere and anytime for students to learn. This research provides new and valuable insights into the feasibility and effectiveness of the smart app creator application to provide a foundation for future educational innovation. Based on the background presented, the problem formulations in this study are as follows. How is the media development design of the smart app creator application with the institution word method to improve the beginning reading skills of grade 1 elementary school students? what is the feasibility of the smart app creator media application with the institution word method to improve the beginning reading skills of grade 1 elementary school students? And how is the effectiveness of the smart app creator media application with the institution word method to improve the beginning reading skills of grade 1 elementary school students?

RESEARCH METHOD

Research Design

This research employs the Research and Development (R&D) method, which systematically consists of structured steps to create specific products and test their feasibility (Sugiyono 2022). The developed product is analyzed to assess its needs before testing its effectiveness and feasibility for user application. This product is designed through a series of stages to ensure its feasibility and effectiveness. The study produces an intelligent learning application using the institution's word method to enhance early reading skills in the Indonesian language. Expert validators, including material and media experts, assess the product's feasibility, while its effectiveness is analyzed using normality tests, t-tests, and N-Gain tests. The development model is based on a modified version of Borg & Gall (Sugiyono, 2022, p.404), implementing eight out of ten stages due to time and cost constraints. The research stages can be seen through the following figure 1.

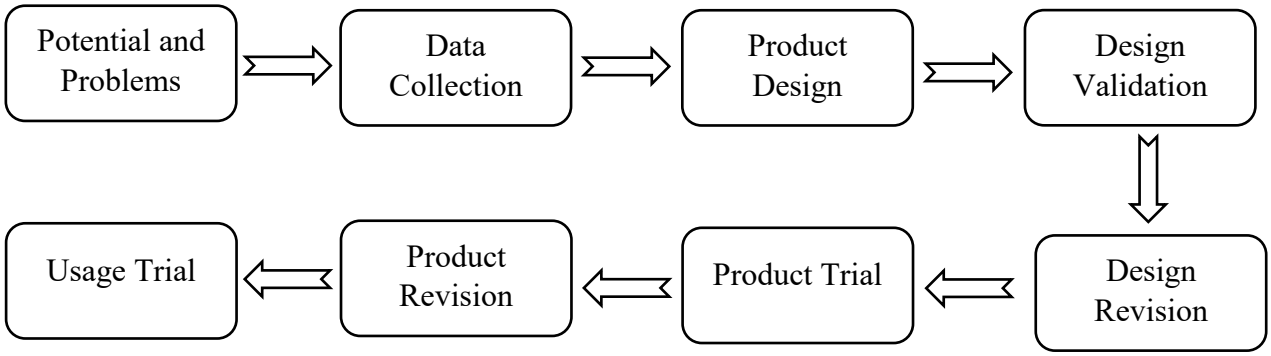

Figure 1. Simple 8-stage steps According to Sugiyono

Research Participants

In the 2025–2026 school year, 22 first-grade students aged 6–7 from SDN Kalibanteng Kidul 03 Semarang participated in the study. Most came from lower to middle socio-economic backgrounds. Using purposive sampling (Sugiyono 2022) six students with varied learning abilities—high, medium, and low—were selected for a small-scale trial. Despite being from different classes, all were at the same developmental level. A full-group trial involving all 22 students was later conducted to evaluate the effectiveness and feasibility of the Smart App Creator application using the institutional.

Instruments

This research instrument includes a validation questionnaire on teachers' needs for the developed product, teacher interviews, and student learning scores designed to collect relevant data. Before mass implementation, experts must validate product development through questionnaires completed by media and material validators. This assessment instrument offers a comprehensive understanding of the effectiveness and feasibility of the developed media and materials. The validity of the research instruments was thoroughly evaluated to ensure data accuracy. The media experts' validation questionnaire scored 93%, categorized as very feasible, while the material experts' validation scored 96.15%, which was also deemed very feasible. Following validation, feedback, and revisions were made to enhance the product. Researchers then conducted small-scale trials with students to assess media feasibility and effectiveness, followed by a teacher questionnaire, which scored 98.25% in the very feasible category. Large-scale observations were conducted to test the product and evaluate improvements in students' early reading skills.

Data Analysis

The data collection technique in this study is well structured and systematically implemented across three primary phases: product data analysis, initial data analysis, and final data analysis. The product data analysis phase evaluates the feasibility and quality of the developed media based on triangulated inputs from expert validation, teacher responses, and observation. Media and material experts assessed the Smart App Creator application through a set of criteria to determine its instructional appropriateness, while teachers completed questionnaires to provide feedback on its usability and effectiveness in classroom settings (Maulida Ajizah et al. 2025). The initial data analysis focuses on testing the normality of student learning outcomes using the Shapiro-Wilk formula through SPSS version 30. This statistical method was applied to compare pretest and posttest scores before and after using the institutional word method integrated within the Smart App Creator application. The data is considered normally distributed if the significance value exceeds 0.05, ensuring valid assumptions for further inferential analysis.

The final phase of data analysis includes both descriptive and inferential statistics, namely the paired sample t-test and N-Gain analysis. The paired t-test is used to determine whether there is a statistically significant difference in student performance before and after the intervention. A significance value below 0.05 indicates a meaningful improvement in reading outcomes. Additionally, the N-Gain test provides a normalized measure of the learning gains by quantifying the degree of improvement from pretest to posttest. Together, these analyses support a robust evaluation of the application's effectiveness in enhancing early reading skills.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The first stage in this research is the collection of potential and problems. This stage seeks information about the conditions of the facts in the field regarding the research samples used: students, teachers, and schools. This activity was carried out by observing and interviewing the first-grade teacher; this was supported by the results of documentation to prove the data taken. Potential problems raised must be empirical study data, problems found in elementary schools related to the Indonesian language regarding the lack of use of learning media, and support for learning methods used by educators during the learning process. This is supported by student learning outcomes that obtain an average of 68.50, which means that students' abilities are still below the school's KKTP of 70. In the second stage, the data collection process is carried out by analyzing what teachers need. The data obtained from this needs assessment will be the basis for designing and compiling the learning media to be developed. The teacher's needs assessment includes a profile of learning beginning reading skills. The following are the results of the recapitulation of the teacher needs analysis .

Table 1

Recapitulation of teacher needs analysis

No	Teacher Needs Indicator
1.	There are obstacles to learning Indonesian, especially regarding students' reading skills, which is still tricky.
2.	Students' interest and motivation in reading are still low.
3.	Students are already too focused and feel bored quickly when learning, which involves reading activities.
4.	The teacher still centers learning, so students are quickly bored.
5.	Teachers need fun learning media.
6.	Teachers need innovations in teaching reading skills.
7.	Teachers need learning media to increase students' sense of activeness and interest 7.
8.	The available media does not yet support the learning of beginning reading skills.
9.	The smart app creator application media has never been used before in learning.
10.	The institutional word method has never been used in reading skills.

The results of the recapitulation of the teacher needs questionnaire in Table 1 are used as an important foundation for researchers to determine the design of media products to be developed. After identifying potential problems, they help gather various information and compile a plan and product development to overcome these problems (Sugiyono 2022). Based on the data collection results, the researchers developed a Smart Apps Creator prototype using the institutional word method. The design, created with Canva, was tailored to student characteristics and early reading material. This media aims to enhance beginning reading skills, as reflected in improved student learning outcomes. Visuals were aligned with the elementary education curriculum (Özbek et al. 2025).After the product is developed, it becomes the final product of a smart app creator application. This application has gone through a feasibility and effectiveness evaluation process by material expert validators and media experts to identify deficiencies and ensure the quality of the media and materials developed so that researchers can improve the media and materials have effectiveness and feasibility according to the substance to be used during the learning process. A PGSD lecturer carried out the material and media validation process at Semarang State University. The results of the validation assessment of material and media experts are as follows.

Table 2
Results of Material Expert Validation Assessment

Aspects assessed	**Percentage Score (%)**	**Criteria**
Aspects of Curriculum Suitability	100%	Very Feasible
Aspects of the suitability of the material on the Smart App Creator application media	96,65%	Very Feasible
The learning aspect of the Smart App Creator application media	89,65	Very Feasible
Aspects of language feasibility in the Smart App Creator application media	98,30%	Very Feasible
Average	**96,15%**	Very Feasible

Table 3
Results of Media Expert Validation Assessment

Aspects assessed	**Percentage Score (%)**	**Criteria**
Learning aspects of the Smart App Creator application	98%	Very Feasible
Navigation aspect of the Smart App Creator application	100%	Very Feasible
The interactivity aspect of the Smart App Creator application	89%	Very Feasible
Display and application aspects of Smart App Creator	87%	Appropriate
Language Aspect of Smart App Creator	98,74%	Very Feasible
Language Aspect of Smart App Creator	72,74%	Feasible
Effectiveness aspect of Smart App Creator	89,48%	Very Feasible
Average	**93%**	**Very Feasible**

Based on Table 2 regarding the results of the assessment by material validation, the average score is 96.15% with the category 'very feasible,' which indicates that the material in the smart app creator application is very feasible to use in the learning process with the suitability and effectiveness of the elementary school curriculum regarding early reading material. While the assessment results by media validation obtained an average score of 93% with the category 'very feasible,' this proves that the smart app creator educational application is effective and feasible to use in the learning process of beginning reading skills. After the material and media validation process was completed, the researchers made revisions and improvements provided by the validators to overcome the shortcomings of the media and materials developed. This revision aims to improve the product based on expert feedback to produce a more effective product design. The educational application media design contains 30 pages with a 1920cm x

1080cm landscape. The design and background color are bright and attractive according to the characteristics of elementary school students. The smart app creator application contains the main menus: the star page, user manual menu, main menu, material menu, quiz menu, let's try the menu, practice menu, and developer profile menu. On the material menu, there are several explanations; the first menu recognizes the letters of the alphabet, which contains learning videos about the letters of the alphabet; the second material menu contains listening to stories, and the third material menu is about to let us practice reading using the institution word method. Each menu in the smart app creator application has audio that explains the commands and content of the existing material.

Product development has gone through an improvement process by researchers. Next is the effectiveness test stage, carried out at the product trial stage. Researchers used purposive sampling to select students for small-scale testing. The selection of students in the small-scale effectiveness test criteria is two high-reading-ability students, two medium-reading-ability students, and two low-reading-ability students based on cognitive and psychomotor abilities. This product test uses an assessment of pretest and posttest learning outcomes before and after using the intelligent apps creator educational application using the institutional word method. This method provides accurate results regarding the effectiveness of the smart app creator application using the word institute method for improving reading skills in low grades, namely beginning reading. Data analysis is described in Table 4.

Table 4
Tests of Normality in the Small-Scale Trial

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Small-scale pretest	.213	6	.200*	.939	6	.650
Small-scale post-test	.203	6	.200*	.956	6	.788

Based on table 4 proves that the results of the small-scale normality test of student pretest scores show Sig 0.650, and student posttest scores show Sig 0.788. The normality test results using Shapiro-Wilk are said to have a normal distribution if the data shows a big value. >0.05, and if the sig. <0.05, then the data is said to be not normally distributed. So, it can be said that the pretest results were 0.650>0.05, and the posttest results were 0.788>0.05. So, it can be concluded that the value of the small-scale normality test in the pretest and posttest classes is said to be normally distributed, which means it is valid. After the small-scale trial, teacher feedback on the media was analyzed using a teacher-response questionnaire to identify the shortcomings and weaknesses of the product. The feedback is used as an improvement by researchers to improve the smart app creator application so that the effectiveness value increases. Teacher responses showed a value with a percentage of 98.25% with a very feasible category.

Referring to the method used in the journal (Huynh et al. 2020), after conducting a small-scale normality test and making improvements based on teacher response analysis, the product was tested on a larger scale to evaluate the effectiveness and feasibility of the application. A large-group experimental design with pretest and posttest was used to evaluate the Smart Apps Creator media. Pretests assessed initial reading skills, while posttests measured improvement after using the app. Results were analyzed with a normality test to ensure data validity.

Table 5
Test of Normality in Large-Scale Trial

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Small-scale pretes	.095	22	.200*	.927	22	.765
Small-scale posttest	.155	22	.186	.926	22	.102

The results of the large-scale pretest and posttest normality test using the Shapiro Wilk formula show that the sig significant value is 0.765, and the posttest normality test results sig value is 0.102. The normality test results using the Shapiro-Wilk formula are declared normal if the sig value is used. >0,05. So, the results of the normality test pretest value were 0.765>0.05, and the results of the normality test posttest value were 0.102>0.05. So, it can be concluded that the results of the normality test of large-scale pretests and posttests of class I students are normally distributed so that the Ho hypothesis is rejected and Ha is accepted. The next step is to conduct a pretest and posttest mean difference test to check the hypothesis that using the smart app creator application using the institutional word method has a significant difference using the paired t-test.

Table 6
Paired T-Test Test Small and Large Scale

Paired Samples Test									
	Paired Differences					t	df	Significance	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
				Lower	Upper				
Pretest Posttest Small Scale	-29.83333	7.98540	3.26003	-38.21350	-21.45317	-9.151	5	<,001	<,001
Large Scale Pretest Posttest	-22.409	7.008	1.494	-25.516	-19.302	-14.99	21	<,001	<,001

The paired t-test test decision-making provisions if S.sig (two-sided)> 0.05, then it is said that there is no difference between the pretest and posttest. In contrast, if sig (two-sided) <0.05, then it is said that there is a difference between the pretest and posttest results, so Ho is rejected and Ha is accepted. The paired t-test results in Table 6 prove that the results on (two-sided) show a significant value of sig <0.001, which means smaller than <0.05. Therefore, it can be concluded that there is a significant difference between the pretest and posttest scores after the treatment of using the smart app creator application using the institutional word method and the posttest after being given the treatment of using the smart app creator application using the institutional word method. After that, the next data analysis calculates the N-Gain value, which aims to analyze the data by comparing the pretest and posttest scores with the maximum difference in pretest scores. The results of the N-Gain test are presented in Table 7.

Table 7
N-Gain Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NGain	22	.42	1.00	.7277	.14466
Valid N (listwise)	22				

In the N-gain test research using SPSS software version 30. NGain test assessment criteria are classified in Table 8.

Table 8
Score Criteria N-Gain

Nilai N-Gain	Value Criteria
N-Gain > 0,70	High
0,30 < N-gain < 0,70	Medium
N-Gain<0,30	Low

Source (Lestari K.E and Yudhanegara M.R 2017)

Table 9
Summary of Student Performance Improvement by Reading Ability Category

Reading Ability	Number of Students	Average Pretest Score	Average Posttest Score	Average N-Gain
Low	7	45	70	0.55
Medium	8	65	85	0.65
High	7	80	95	0.75

Based on the results of Table 7, the N-Gain score obtained was 0.7277 or 72.77, which is included in the moderate criteria based on Table 8. So, the effective category value is in the N-Gain value of student pretest and posttest learning outcomes before and after using the smart app creator application and the institutional word method. Table 9 summarizes the improvement in student performance based on reading ability categories before and after using the Smart App Creator application and the Institutional Word method. Students with low, medium, and high reading abilities all showed increased average scores, with N-Gain values of 0.55, 0.65, and 0.75 respectively, indicating medium to high levels of learning effectiveness (Dietz Smith et al. 2024). These results demonstrate that the learning media positively impacted Indonesian language learning outcomes for all students, with the greatest improvement observed in those with high reading ability (Wang et al. 2024). So, using the smart app creator application and the institutional word method in elementary school students' learning of the Indonesian language has an impact on increasing the effectiveness of learning media.

Discussion

This study addresses the ongoing challenge in Indonesia where the use of learning media has not fully met the needs of early reading development among elementary students. Prior research indicates that media integration with instructional methods often falls short in resolving early reading difficulties (Bautista et al. 2023; Sysoev et al. 2021) According to earlier studies, the use of learning media in Indonesia is still below ideal. Media integration with instructional methodologies has not addressed pupils' early reading issues. Researchers used the institutional word technique to create learning materials using Smart Software Creator's educational software to get around these problems. This advancement adheres to the methodical research processes of Borg & Gall (Sugiyono 2022), which include recognizing opportunities and issues, gathering data to provide precise information, designing and assessing products for efficacy, testing, and modifying products, and carrying out extensive trials to guarantee efficiency.

The interactive multimedia nature of the Smart App Creator supports active learning and student engagement, consistent with findings (Ratnasari Dyah et al. 2024) who emphasize the role of direct student interaction in improving comprehension. Multimedia elements-such as audio, visual, and audiovisual components-enhance the learning experience by catering to diverse learning styles (Andriyani et. al 2020) This aligns with the theoretical understanding that early reading requires a multi-sensory approach where decoding and comprehension develop through engaging, structured activities (Hurrahmi M et al. 2023)

The study's results affirm that the Smart App Creator, integrated with the Institutional Word method, effectively improves beginning reading skills, as evidenced by significant learning gains supported by paired t-test and N-Gain analyses. These findings mirror prior research highlighting the efficacy of digital reading media in increasing student interest and cognitive outcomes(Aplianti Tanti et al. 2023;Syarifuddin et al. 2022). The institutional word technique's focus on decomposing and recomposing syllables enhances critical thinking and letter recognition, addressing a core component of literacy acquisition (Oktavia Delia et al. 2024).

From the results of the explanation of the problems regarding beginning reading, the researcher conducted a needs analysis involving teachers through a questionnaire, which resulted in obstacles in the Indonesian language learning process, namely difficulties in beginning reading. With that, researchers provide solutions to these problems by developing media

products. Teachers agree with the development of smart apps and educational applications to improve early reading skills (L. A. I. U. Khasanah et al., 2023). Learning methods must also be considered when combining the learning media developed. Early reading skills need to use learning methods so that the way teachers provide understanding to students is more straightforward to accept based on the results of previous studies proving that the institutional word method can overcome the difficulty of reading skills because the institutional word method helps students to recognize letters by decomposing and rearranging syllables so that it helps students to think critically in composing and decomposing letters into syllables and ending up becoming words (Oktavia Delia et al., 2024).

After analyzing the needs of teachers, researchers began designing the smart app creator application design. The results of the teacher needs questionnaire are a reference for making designs in product development called prototypes or storyboards before being used as a whole media (Aini & Sukartiningsih 2022). This design was made by researchers using the Canva application; this application offers an efficient way for teachers to design attractively so that the design of application materials can be tailored to the material and needs of students. After that, the researcher developed the prototype design into an application. The feasibility and effectiveness of the smart app creator application were assessed using validation instruments by material experts and media experts. The assessment results show that the smart app creator application is feasible for improving beginning reading (Erlina Tiara & Iswara, 2024). The assessment by material experts included four aspects with 25 question indicators, which resulted in an overall score of 96.15%.

Meanwhile, the assessment by media experts included seven aspects with 25 question indicators, resulting in an overall score of 93%. So, the results of the material and media expert validators assess the smart app creator application as categorized as very feasible to be applied in learning, the results of this study are supported by (Bai et al. 2021) previous research that aligns curriculum changes to make teachers focus more on students' reading fluency.The smart pass creator educational application helps teachers teach students in the current era because the media created with the application results makes it easier for students to learn repeatedly without using the internet network (Arnandi Fikri, Siregar Nurfadila, & Fitriawan Dona 2022).

The smart app creator educational application with the institutional word method has proven effective in improving students' beginning reading skills, as shown by a significant increase in learning outcomes. This is supported by previous research that shows that using the smart app creator application can increase students' interest in reading digitally packaged storybooks (Syarifuddin & Utari Dewi Eka, 2022). This research is supported by other research, which proves that the application of the smart app creator application results in an increase in students' cognitive learning outcomes by training questions in the smart apps creator application (Rumapea 2024).This research provides new insights and knowledge in Indonesian language subjects, especially in improving early reading, which is integrated through the development of smart app creator educational applications using the institution word method. This research has limitations in making media only available for trial for 30 days, so further research is needed to develop and create other media with more potential to be researched.

CONCLUSION

The smart apps creator media consists of several menus: the star page, work instructions menu, main menu, introduction menu, material menu, quizizz menu, let us try the menu, practice menu, and developer profile menu. Smart app creator applications can be used on smartphones and laptops without an internet connection. The development of smart app creator educational applications is declared valid with very feasible criteria based on the results of material expert validation, getting a score of 96.15%, while the results of media expert validation get a score of 93%, where the results of both get a very feasible category. The effectiveness and feasibility of

the smart app creator application are evidenced by the pretest and posttest results, which were analyzed using the paired t-test and N-Gain test. The results of the paired t-test analysis produced sig.<0.001, which proves that there is a difference in the average results of the pretest and posttest scores before and after using the smart App creator application. While the N-Gain test results get a value of 72,77%, included in the moderate category, developing smart app creator educational applications can improve students' beginning reading skills to make the learning process more interactive. The results of this study provide valuable knowledge and findings in the world of educational practice, thus providing an excellent opportunity to implement it widely and conduct further research on smart app creators. Although this study demonstrates the effectiveness and feasibility of the Smart App Creator application in improving students' beginning reading skills, there are some limitations to consider. One main limitation is the relatively short trial duration, which may not fully capture the long-term impact of using this application on students' reading development. Additionally, the study's sample was limited to a single group of students, restricting the generalizability of the findings. Therefore, future research is recommended to extend the trial period and include a larger and more diverse sample from various educational levels and backgrounds. Future studies could also explore the development of additional features within the application and evaluate its effectiveness in broader and more varied learning contexts to gain a more comprehensive understanding of the Smart App Creator's potential in education.

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