

Digital Learning Innovation Through Application-Assisted RADEC Model: Let's Read About Elementary School Students' Writing Skills

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<i>creative writing;</i> <i>RADEC learning model;</i> <i>writing skills;</i> <i>let's read application;</i> <i>elementary school</i>	<i>The diminishing enthusiasm among students for composing personal narratives, coupled with the overwhelming presence of readily accessible online examples, has prompted many to resort to shortcuts, consequently impeding their creative growth and expression. This study examines the effectiveness of the RADEC learning model in enhancing graphic composition skills among fifth-grade students. Utilizing a quasi-experimental design characterized by a quantitative methodology and a pretest-posttest control group structure, the study engaged a cohort of 60 fifth-grade students from a rural educational institution. The selection of participants was carried out through convenience sampling, which involved choosing two classes, namely VA and VB, with each class comprising 30 students. Data collection was accomplished through a comprehensive approach that included the administration of questionnaires, standardized tests, and the compilation of relevant documentation. The findings indicate that the RADEC model improves students' comprehension of writing concepts and significantly enhances their descriptive writing skills in Indonesian. Its structured, student-centered approach facilitates their progression from basic writing tasks to planning, monitoring, and evaluating their work. Furthermore, it promotes critical, creative, and independent thinking in writing.</i>

INTRODUCTION

Background of the Study

The Indonesian language curriculum in primary education serves as a mechanism to enhance student engagement. Proficiency in the Indonesian language is essential as it significantly contributes to the development of students' social and emotional competencies, intellectual capabilities, and enhances their prospects for success in diverse academic disciplines. Thus, acquiring proficiency in

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Indonesian fosters creativity, self-assurance, and information acquisition skills (Elviya, 2023). Writing skills are intricately connected to subsequent reading abilities and constitute the foundation of linguistic proficiency, enhancing and fortifying the associated skills. Typically, increased reading correlates with enhanced writing fluency among students. Writing facilitates the effective expression of thoughts and ideas, enabling individuals to attain their goals and objectives (Musyadad et al., 2021). Writing fulfils various functions, such as recording information, articulating ideas, conveying news, instructing, and influencing others. The practice of reading cannot flourish without the practice of writing, and conversely, writing proficiency is rendered ineffective without the reinforcement of consistent reading. Moreover, writing is commonly perceived as the most difficult language skill to acquire (Aziezah, 2022).

Engaging in writing activities is an effective means by which students can enhance their cognitive processes and learning outcomes. Consequently, studying Indonesian enables students to acquire proper grammatical structures (Aziezah, 2022). Writing activities provide students with the opportunity to express their ideas and imagination, as exemplified in the creation of descriptive story texts (AlSaied & Akhtar, 2021). Thus, the activity of writing descriptive texts can foster independence and improve students' soft skills (Raissa et al., 2022). In learning Indonesian, writing activities that involve students' thoughts, knowledge, and experiences—such as writing descriptive texts—focus on developing the ability to effectively communicate the content of descriptive texts, including topics, facts, opinions, and responses (Steinhauer et al., 2017). Shadiqah et al., (2023) Reveals that, in writing skills, the structure of a complete descriptive text consists of a general description, a description of the section, and a conclusion. Another essential skill is the ability to use appropriate diction in descriptive texts. According to Asyifa & Tania, (2024) writing skills also involve the ability to select a topic. Before engaging in the writing process, the writer must first be proficient in choosing a suitable topic (Asyifa & Tania, 2024).

Digital media is widely recognized as a popular and integral component of education, social media, and advocacy for social change. Its ability to enhance overall learning has made it a significant part of education for the past three decades. The primary objective of digital storytelling in education is to integrate the advantages of traditional learning with those of digital learning. The use of the Let's Read Digital App Stories, which progressively unfold throughout courses and the program, provides a unique opportunity for both individual and collaborative learning experiences that might otherwise be difficult to achieve (Shabbar et al., 2024). Contemporary digital learning materials are inherently technology-driven. These resources serve as a versatile medium for the creation of audiovisual content, which has been shown to significantly enhance—and in some cases, elevate—student motivation across various educational levels (McHaney, 2023). Technological advancements have led to the emergence of numerous digital reading applications and platforms accessible to everyone, including students, with the Let's Read application being a notable example. Students gain knowledge about the world by recognizing and potentially challenging gender stereotypes. Storybooks serve as a mirror to societal values, profoundly influencing children's perceptions and understanding of gender frameworks, thereby positioning them as essential tools in scholarly investigations into gender stereotypes. Storytelling not only enables children to readily internalise societal stereotypes but also equips them to competently navigate and participate in diverse future social contexts. Moreover, such narratives cultivate a mindset that actively challenges discriminatory behaviours and prejudices, while simultaneously fostering core ethical principles—including compassion, benevolence, solidarity, and empathy (Armianti et al., 2023).

In addition to fostering moral development, storybooks play a pivotal framework in supporting children with special needs and providing valuable strategies for heading problematic behaviors. Over recent decades, the Let's Read digital application has garnered significant attention in the field of

education, owing to its distinct advantages in facilitating language acquisition. This innovative approach seamlessly integrates the modalities of writing, speaking, and listening, thereby equipping students with essential 21st-century literacy skills while simultaneously offering a holistic and nuanced understanding of a wide range of subjects (Zarifsanaiey et al., 2022). The Let's Read Application is a free digital library designed specifically for children. Its purpose is to foster a love of reading among Indonesian children from an early age by providing educational storybooks in various foreign and regional languages (Nurhabibah et al., 2023).

Problem of the Study

Preliminary observations conducted at the elementary school revealed a noticeable lack of enthusiasm among students when tasked with writing short stories that aim to articulate personal experiences or events. These students exhibited a limited capacity to express their ideas in a coherent, detailed, and organized manner. Upon being assigned such writing tasks, they frequently produced sentences that were unclear and difficult to decipher, coupled with a marked reluctance to engage in reflective or thoughtful writing. Consequently, many students resorted to replicating their peers' work and hastily completing assignments, thereby forfeiting valuable opportunities to cultivate their writing skills—skills that are crucial for mastering the Indonesian language, particularly in the domain of composing descriptive texts (Liviana & Rokhmaniyah, 2024).

Research shows several factors that influence this difficulty, including students' lack of interest in writing skills and students' low ability to express ideas in detail and clearly (Lutfiah et al., 2021). Therefore, the difficulties students encounter in writing descriptive texts are primarily caused by inhibiting factors, such as uncertainty about where to begin searching for ideas and challenges in selecting appropriate vocabulary for sentence construction (Anna & Anita Scott, 2021). Then, Educators continue to use conventional teaching methods to facilitate the learning process in Indonesian language writing instruction (Liviana & Rokhmaniyah, 2024).

Another contributing factor is the excessive dependence on theoretical explanations of writing descriptive texts, without the inclusion of practical strategies and adequate support. Zarifsanaiey et al., 2022). Conventional learning models, including lectures, Q&A, and assignments, can make students bored and eliminate opportunities to practice writing. The application of the RADEC learning model can be an effective strategy to address this issue. This approach encourages learners to engage with reading materials initially, respond to thought-provoking questions, discuss ideas with peers, and compose descriptive texts based on their understanding of the concepts. As a result, students become more active, creative, and motivated to enhance their writing skills (Riyani et al., 2024).

The literature indicates that the RADEC model combined with digital technologies, such as the Let's Read application, can improve reading and writing skills, particularly in writing. Several studies have also identified a relationship between students' learning attitudes and their writing abilities. However, no research has yet explored variations in writing skills resulting from the use of digital reading technology. Furthermore, there is a lack of studies integrating the RADEC model with the Let's Read application within Indonesian language instruction. Therefore, this study aims to examine significant differences in students' writing skills by employing the RADEC model supported by the Let's Read app, compared to conventional teaching methods.

Research's State of the Art

Writing skills remain essential for fostering creativity, which is crucial for heading the challenges of the 21st century. Modern education, especially in writing, should foster creative thinking in students. To cultivate this skill, learners need authentic contexts and practical activities that promote experiential learning, enabling them to apply newly acquired writing techniques. Supporting students in developing innovative and compelling writing skills remains essential. As Sunarsih &

Fristika, (2019) asserts, creative thinking involves considering ideas that everyone thinks about in order to achieve what no one else has done before.

A short story or description is a skill that involves effectively conveying the content of descriptive texts related to topics, facts, opinions, and responses. It also needs providing appropriate methods for students to express their ideas, enabling them to develop and demonstrate critical thinking skills (Raissa et al., 2022). This descriptive text, which reflects aspects of human life along with real phenomena and events, is constructed by combining key components. The writers, by thoughtfully organizing these components, craft a sense of realism and animate their work (Sunarsih & Fristika, 2019). Intrinsic elements form the foundational core of a short story; however, external factors, including the author's personal background, the socio-cultural context in which the narrative is situated, and the implicit messages conveyed through the text, play a crucial framework in shaping its overall structure and meaning. When engaging in independent writing, students are capable of generating ideas for short stories by drawing upon their personal observations, leveraging online resources, and seeking guidance from external sources, all of which contribute to the creative process.

The RADEC learning model is an innovative educational approach that encourages active student engagement, fosters independent thinking, and supports the development of 21st-century skills through literacy. It emphasizes the selection and application of learning strategies as well as the assessment of learning outcomes (Sukmawati & Zulherman, 2023). Setiawan et al., (2019) students need to learn independently about the concept of the subject matter without help from others. This aims to see the students' actual abilities, and sometimes, students need help from others to develop their potential abilities (Hmelo-Silver, C. E. (2004). Fundamentally, the RADEC Model encourages students to generate creative ideas after engaging with the learning material. As a 21st-century educational paradigm, it needs teachers to be more innovative in designing the learning environment. Utilizing advanced technological learning tools, such as the Let's Read application, which offers a variety of reading materials for children, can significantly enhance students' interest in reading and expressing their story ideas in writing (Genlott, & Grönlund, 2013).

Within the RADEC educational framework, the teacher assumes a pivotal role in facilitating the development of students' self-awareness by actively assisting them in recognizing their individual learning needs and the specific skills they wish to cultivate. This guidance empowers students to establish purposeful and meaningful learning objectives that align with their academic aspirations. The model further encourages autonomous learning by systematically guiding students through a series of progressive stages, which include reviewing pertinent literature, responding thoughtfully to questions, participating in in-depth discussions, seeking necessary clarification, and ultimately producing original and independent work (Muslihah & Nuriyanti, 2023). Utilizing the RADEC model can enhance students' reading and writing skills.

According to research, Zarifsanaiey et al. (2022) stated that there are some limitations in the research that focuses more on higher education, especially in the field of social work, so it is less relevant for elementary school students who are developing basic writing skills. Moreover, this study did not incorporate a structured learning model like RADEC, which could facilitate a more systematic understanding of the writing process for students. Meanwhile, the study Rahimi & Yadolahi, (2017) only compares the effectiveness of digital storytelling in learning English as a foreign language, without considering how this strategy can be applied in the Indonesian language context with an activity-based. This research aims to overcome this shortcoming by modifying the approach. The Let's Read digital reading application, combined with the RADEC learning model, offers a structured approach to learning, guiding students through the process from reading to writing. This model helps students gradually understand the writing process. Additionally, this study incorporates the Let's Read application as an interactive digital tool that provides contextual reading materials, enabling students

to read, discuss, and develop their writing skills. It is expected that this approach, through digital storytelling, will more effectively enhance the literacy skills of elementary school students.

Gap Study & Objective

An extensive corpus of previous scholarly investigations has meticulously examined the developmental trajectory of writing competencies in elementary-level learners. In particular, numerous prior studies have concentrated on evaluating the implementation of the RADEC instructional model as a pedagogically innovative strategy designed to enhance and stimulate creativity within the domain of explanatory text composition (Suriani, & Yanti, 2024). Sopandi et al., (2021). A substantial body of scholarly research has examined the development of writing proficiency in primary education. Notably, several studies have systematically investigated the implementation of the RADEC instructional framework as a targeted pedagogical intervention designed to foster creative thinking skills during explanatory text composition (EP Sari & Mukhlisina, 2023). Moreover, the application of learning models is intended to enhance the writing proficiency of young learners in primary education. Previous studies have examined the application of the RADEC learning model to promote creativity in the writing of explanatory texts among elementary school students.

Traditional approaches to writing instruction—such as teacher-centered lectures and rote memorization of grammar rules—often fall short in equipping students with the skills and engagement necessary for effective written expression. Thus, the effectiveness of the RADEC learning model is enhanced through the integration of digital technology, such as the Let's Read application. This application offers a wide range of Indonesian illustrated storybooks that are engaging, interactive, and appropriately aligned with students' literacy levels (Ermerawati, 2019). This approach fosters the development of students' thinking skills in an integrated manner, while technological innovations like the Let's Read Application serve as a valuable reading resource that enriches students' vocabulary and stimulates ideas for writing. Consequently, the combination of both has the potential to significantly enhance students' writing abilities. Previous studies on the RADEC learning model have primarily focused on enhancing critical thinking and creativity, yet comprehensive research on its impact on collaboration and communication remains limited (Sari et al., 2021).

Furthermore, research focused on the application of the RADEC model in elementary schools in Indonesia is limited, highlighting the need for further studies that consider local contexts and student characteristics (Novianti et al., 2023). Most existing studies primarily focus on short-term outcomes, without heading the long-term impact on students' skill development, and often overlook variations in initial skill levels that could influence the effectiveness of the model. Therefore, further research is needed to explore how students' initial skill levels affect learning outcomes when using the RADEC model. This study offers a comprehensive evaluation of the RADEC model's effectiveness, enhances the reliability of the findings, and lays the groundwork for future recommendations. As such, this research aligns with the education curriculum, which emphasizes the importance of 21st-century skills, and provides valuable guidance for educators in implementing more effective teaching strategies in elementary schools (Fauziah & Sukmawati, 2023). Anita & Syam (2024). Building on this foundation, this study examines the impact of the RADEC model on improving the ability of fifth-grade elementary school students to write descriptive texts in Indonesian, with the support of the Let's Read app.

The literature indicates that the RADEC model, combined with digital technologies such as the Let's Read app, can enhance literacy skills, particularly in reading and writing. While the Let's Read app has been shown to improve literacy, no previous studies have examined differences in writing skills resulting from the application of digital reading technology. Additionally, there has been no research integrating the RADEC model with the Let's Read app in the context of Indonesian language learning. Therefore, this study aimed to explore significant variations in students' writing abilities by implementing the RADEC model, supported by the Let's Read application, in comparison to conventional learning methods.

METHOD

Type and Design

The present study employed a quasi-experimental methodology, characterized by the integration of a posttest-pretest strategy coupled with the inclusion of a control group to rigorously assess the impact of the intervention. This research design involved the formation of two distinct cohorts: the experimental group, which received the intervention treatment, and the control group, which engaged in traditional learning approaches devoid of the RADEC model or the utilization of the Let's Read application. For enhanced clarity and detailed understanding, a schematic representation of the posttest-only control group framework is provided in Table 1.

Table 1. Pretest-Posttest Only Control Research Framework

Class	Variables	Prates	Post-test
R(test)	X		02
R(control)	Y	01	

Data and Data Sources

This study was undertaken at a school located in East Jakarta, where preliminary observations indicated that a significant number of students encountered considerable challenges in composing short stories, particularly in the area of descriptive writing. The implementation of the RADEC learning model is anticipated to result in substantial improvements in these writing skills. The research was carried out during the even semester of the 2025/2026 academic year, specifically commencing in February 2025. The research population encompassed a total of 60 students, divided equally into two groups: 30 students from class A, designated as the control group, and 30 students from class B, designated as the experimental group. To ensure representativeness and minimize bias, the study employed a basic probability sampling method, thereby affording each individual in the population an equal probability of being selected for inclusion in the sample. Specifically, a simple random sampling technique was utilized to randomly select participants from the entire population, without the application of stratification. The selection of the sample was performed through a randomization process facilitated by the SPSS software in conjunction with a systematic data sampling technique. Consequently, this process yielded a combined sample comprising 30 students from class VA alongside an additional 30 students from class VB, culminating in an aggregate total of 60 participants.

Data Collection Technique

This study implemented a dual-method approach for data collection. The initial method involved a descriptive writing assessment, in which students were tasked with composing a three-paragraph narrative, thereby providing a more holistic and nuanced evaluation of their writing capabilities. The secondary method employed a questionnaire designed to gauge the degree to which students' writing skills were enhanced through the application of the RADEC learning model, facilitated by the integration of the Let's Read application. This survey, utilizing a Likert scale, was intended to capture students' self-reported proficiency in writing across a range of specific domains, offering insights into their perceived improvements. The questionnaire is structured with four distinct response options: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD), each serving to capture the nuanced perspectives of participants. Its primary objective is to assess the effectiveness of the RADEC model, augmented by the integration of the Let's Read application, in facilitating advancements in

Indonesian language acquisition, with a particular focus on the enhancement of descriptive writing skills (refer to Table 2). This instrument was meticulously designed in accordance with expert recommendations, ensuring its alignment with established educational standards (Nurliana & Sukmawati, 2023). The questionnaire utilized in this study has undergone rigorous academic validation and is firmly rooted in a scientific methodology that has been extensively tested in prior research. Consequently, it serves as a robust and reliable instrument for evaluating the efficacy of the RADEC model in enhancing students' competencies, with a particular emphasis on fostering critical thinking, creativity, collaboration, and communication skills (See Table 2).

Table 2. RADEC Model Questionnaire Assisted by Let's Read Application

Question
I find it easier to understand Lessons through Models, RADEC?
Using the Let's Read app helps me with my writing.
I am more confident in writing after using the model. RADEC?
Discussions in RADEC learning helped me understand Is the material better?
The features on the Let's Read application are interesting and make it easier for me to learn.
The "Read" step in the RADEC model made me better Comprehend the information in the text I reviewed.
The "Answer" step made me hone my thinking skills. My critique.
I feel motivated to actively participate in Steps "Discuss"
The "Explain" step allows me to convey ideas clearly.
The "Create" step improved my ability in creative writing.
Using the Let's Read application makes learning easier and the process more enjoyable.
I found the RADEC model helpful in completing the task.
Write.
Studying with the Let's Read app saves time, I understand
The ingredients.
Combination of the RADEC model and the Let's Read application
very effective in improving writing skills.
I would like to continue using the RADEC and Let's Read models.
Application in my learning.

The score criteria are presented based on the results. The RADEC model questionnaire was employed with the support of the Let's Read application, which facilitates the application of the RADEC model. Effectiveness is evaluated based on the score criteria. A score between 40-60 indicates very good effectiveness, with students being actively engaged and demonstrating a strong understanding of the material. A score between 30-40 reflects a good model, though there are areas for improvement. A score between 15-30 suggests sufficient effectiveness, but challenges remain. A score between 0-15 highlights significant room for improvement, such as enhancing interactivity and the

relevance of the material. These criteria allow for the evaluation and formulation of steps to enhance the quality of learning, as presented in Table 3.

Data Analysis

After the data collection phase, the gathered information is processed to initiate the analysis. This process involves selecting the appropriate statistical formula based on the research question. The assessments of both validity and reliability revealed that the correlation analysis produced a value of 0.771, accompanied by a significance level of 0.001, thereby establishing a robust positive correlation between writing skills and academic performance. These findings further substantiate the integrity of the instrument's validity and reliability. In addition, the evaluation of the writing skills test data encompassed both normality and homogeneity tests, conducted to ensure that the data conforms to a normal distribution and that the variances between the groups remain homogeneous. The assessment of normality is conducted through the application of tests such as the Shapiro-Wilk or Kolmogorov-Smirnov tests, while the evaluation of variance equality is carried out using Levene's or Bartlett's test. These methodological procedures are crucial in ensuring the statistical analyses yield results that are both valid and reliable for subsequent interpretation. Any items failing to meet the requisite criteria for validity or reliability are systematically excluded from further consideration, thereby safeguarding the integrity of the analysis. The following hypotheses are proposed for this study: H_0 : The application of the RADEC learning model, in conjunction with the Let's Read application, has no significant impact on students' writing abilities; and H_1 : The application of the RADEC learning model supported by the Let's Read application results in a significant improvement in students' writing abilities. Since the sample sizes are equal (n_1 and n_2), an independent t-test for variances is employed Yam & Taufik, (2021) Employed for hypothesis testing.

RESULTS

According to the defined learning model, both the control and experimental groups engaged in the learning activities. The researchers provided individualized instruction during the sessions, tailored to each specific model. Data from the post-test results of both groups, related to the RADEC Learning Model supported by the Let's Read application, are presented in Figure 1. This data enabled the researchers to assess the extent of improvement by comparing the post-test outcomes. By allowing students to learn at their own pace and in a manner that suits their individual preferences, while also encouraging active participation in learning activities aligned with their interests, the RADEC learning model fosters student autonomy.



Figure 1. RADEC Assisted by the Let's Read application on descriptive text writing skills of the experimental class

Descriptive Text Writing Skills Results

Student Respondent Data

The analysis of writing skills indicates that students' writing abilities improved following the application of the RADEC model, with support from the Let's Read application. Prior to using the RADEC model, students exhibited passive behavior, a lack of creativity, and limited critical thinking. This is supported by the Pre-test and Post-test data, which show that students were able to produce writing that was more coherent, content-rich, and structurally sound. These findings demonstrate that the RADEC model, when combined with the Let's Read application, effectively enhances students' writing skills.

This survey aims to evaluate the effectiveness of the Let's Read application in supporting the RADEC learning approach, particularly in enhancing students' performance and their ability to write descriptive texts (Sopandi et al., 2021). In the Explanation stage, students or teachers re-explain the concepts that have been discussed to ensure comprehensive understanding. The teacher supports this approach by setting aside time for clarification and feedback, encouraging collaboration among students to enhance their understanding. In the Creation stage, students apply the knowledge they have acquired by producing a relevant project or product, enabling them to assess their understanding and skills. At this juncture, the teacher's role is to provide not only strategic guidance but also constructive feedback, thereby facilitating an environment in which students are able to attain a comprehensive and nuanced understanding of the concepts under examination (Widodo et al., 2024). The questionnaire consists of 15 statements, with responses categorized as follows: Strongly Agree (SA) is assigned 4 points, Agree (A) is worth 3 points, Disagree (D) receives 2 points, and Strongly Disagree (SD) is given 1 point.

Pre-test Value of Control Group

The control group exhibited a mean score of 50.0, with the scores spanning from a minimum of 25 to a maximum of 100, reflecting the distribution of student performance prior to the implementation of the RADEC model. This range underscores the variability in students' baseline writing abilities before the intervention. Figure 3 presents a frequency distribution of the control group's scores. In this group, 2 students achieved scores between 75 and 100, representing the highest performance. Conversely, 15 students scored between 25 and 49, representing the lowest range. Figure 3 further illustrates that 15 students scored between 25 and 49, 13 students scored between 50 and 74, and 2 students scored between 75 and 100.

Experimental Group Post-test Value

Following the engagement of the experimental group with the RADEC learning model, a post-test was administered utilizing the Let's Read application. The results for the experimental group (class VB) revealed a mean post-test score of 83.8, with individual scores ranging from 65 to 100 and a standard deviation of 13.8. These post-test outcomes provide a comprehensive overview of the performance distribution within the experimental group. As depicted in Figure 3, the majority of students—24 in total—scored within the range of 75 to 100, indicating a strong level of achievement. In contrast, 6 students scored between 50 and 74, placing them within the lower segment of the performance spectrum. Figure 2 illustrates a significant disparity in score distribution between the experimental and control groups. Before the intervention, a higher proportion of students in the control group received lower scores, indicating a relative lack of proficiency. Conversely, after the intervention, the experimental group demonstrated a marked improvement in performance, as evidenced by an increased number of students consistently attaining higher scores, reflecting the positive impact of the instructional approach.

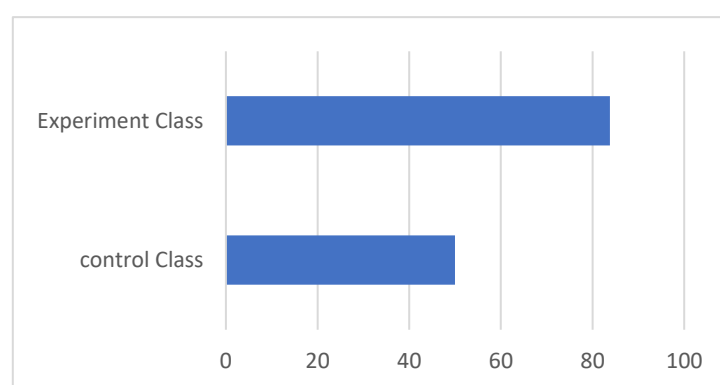


Figure 2. Comparison of Frequency Values of Control and Experimental Classes

Comparison of Pre-Test Values of Control Class and Post-Test of Experimental Class

The administration of both a pre-test and post-test within the instructional framework serves the dual purpose of assessing students' descriptive writing competencies both prior to and following the intervention, thereby facilitating a comparative analysis between the control and experimental groups. A total of thirty students from class VB were designated as the experimental group, while the control group consisted of students from class VA. In total, sixty fifth-grade elementary school students participated in the study. Both groups were subjected to a descriptive text writing assessment both before and after the intervention, enabling a comprehensive evaluation of the impact of the instructional method.



Figure 3. Analysis of the mean scores of the experimental group versus the control group

The post-test results indicated that the experimental group attained a mean score of 83.8, whereas the control group recorded a substantially lower average score of 50.0. A comparative analysis of the pre- and post-test results for both groups is visually represented in the figure below, with Figure 3 highlighting a notable 33.8-point differential in the average post-test scores between the experimental and control groups. The data further reveal that students in the experimental group exhibited markedly superior descriptive writing skills when compared to their counterparts in the control group. These findings underscore a pronounced disparity in the descriptive writing competencies of the two groups, with the experimental group demonstrating a clear advantage.

Hypothesis Testing Results

In this study, a t-test was used to evaluate the research hypothesis. However, before conducting the t-test, tests for normality and homogeneity were performed to ensure the data met the necessary assumptions. The following section outlines the hypothesis testing procedure applied in this research.

Normality Test

To assess whether the population adheres to a normal distribution, the Lilliefors method was employed to perform a normality test, utilizing a 5% significance level ($\alpha = 0.05$). The outcomes of the normality test, conducted for both the experimental and control groups, are comprehensively presented in Table 3.

Table 3. Writing Skills Post-Test Results

Statistics	Post-test	
	Experimental Class	Control Class
N	30	30
Means	83.8	50.0
Standard deviation	11,423	16,557
Counting	0.0470	0.0120
Table	0.161	0.161
Conclusion	Normal Distribution	Normal Distribution

Based on the data can be considered regularly distributed if the test requirement is met, as $L_{calculated} < L_{table}$ at a significance level of 0.05. This is the outcome of the post-test normalcy test analysis. The L_{table} value (0.161) is greater than the L_{hitung} value (0.0470) for the experimental class. so H_0 is accepted. In the post-test of the control class, the L_{hitung} value (0.0120) is smaller than the L_{table} (0.161), As a result, the null hypothesis is retained, thereby leading to the inference that both

the post-test results of the experimental group and the pre-test results of the control group are derived from populations that exhibit a normal distribution.

Homogeneity Test

The primary objective of the homogeneity test is to ascertain whether the two samples are derived from populations possessing similar characteristics, with a particular focus on evaluating the equality of their variances. For the purposes of this study, an F-test was employed to rigorously assess the homogeneity of the data between the experimental and control groups. The subsequent table provides a detailed presentation of the results obtained from the homogeneity test conducted on both groups.

Table 4. Writing Skills Post-Test Results

Statistics	Post-Test	Pre-Test
	Experimental Class	Control Class
Variance	130.4	274.1
Count		2.101
Broken		4.00
Conclusion	Homogeneous	

As delineated in Table 4, the homogeneity of the data is determined by comparing the F-count value to the F-table value; specifically, if the F-count value is lower than the F-table value, the data are categorized as homogeneous. In contrast, when the F-count value exceeds the F-table value, the data are classified as non-homogeneous. The table provides a comprehensive overview of the results derived from the homogeneity test, which was administered to assess the descriptive writing skills of both the experimental and control groups, both prior to and following the intervention. Notably, the control group exhibited the greatest degree of variance (274.1), whereas the experimental group demonstrated a significantly lower variance (130.4), highlighting a more consistent level of performance within that cohort. Based on the test results, the data variances were determined to be homogeneous, as the F-count value (2.101) was lower than the F-table value (4.00), indicating consistent variance in descriptive text writing performance across groups.

Hypothesis Testing

This study sought to empirically test the hypothesis positing a significant disparity in the descriptive writing capabilities of students instructed via the Read, Answer, Discuss, Explain, and Create (RADEC) model compared to those receiving instruction through traditional pedagogical methods. To assess this hypothesis, an independent t-test was performed, with the analysis conducted at a significance level of 0.05. The statistical findings revealed a t-count value of 9.2116, which notably surpassed the critical t-table value of 2.0017, thereby affirming the presence of a statistically significant difference between the two groups. As a result, the null hypothesis (H_0) was retained, while the alternative hypothesis (H_1) was rejected. In light of these findings, it can be concluded that the implementation of the RADEC model within a primary school setting in East Jakarta has a statistically significant positive impact on the enhancement of fifth-grade students' descriptive writing competencies. The data further suggest that, when juxtaposed with traditional instructional methodologies, the RADEC model proves to be a more efficacious pedagogical approach in fostering the development of students' writing abilities. This model not only promotes heightened student engagement but also facilitates a more profound comprehension of the subject matter, while simultaneously cultivating both critical and creative thinking capacities among the learners. The control group had a pre-test average score of 50.0, while the experimental group achieved a post-test average of 83.8. When comparing the mean scores of both groups, students taught using the RADEC

model in the experimental group demonstrated superior performance. In contrast, the use of traditional teaching methods in the control group was associated with lower student engagement, especially in terms of initiating questions.

DISCUSSION

The results of the study indicate a statistically significant disparity in the descriptive writing competencies of students, favoring those who were instructed using the RADEC model. Quantitative analysis substantiates that learners exposed to the RADEC-based instructional approach exhibited markedly enhanced proficiency in composing descriptive texts when compared to their counterparts who received conventional pedagogical treatment. This performance gap is clearly reflected in the comparative post-test mean scores, wherein the experimental group, which engaged with the RADEC model in conjunction with the Let's Read application, attained an average score of 83.8, substantially outperforming the control group subjected to traditional instructional methods, which achieved a mean score of only 50.0. This marked distinction highlights the efficacy of the RADEC model in significantly augmenting students' descriptive writing competencies. Consequently, it can be conclusively inferred that the implementation of the RADEC framework within elementary school settings has demonstrably contributed to the enhancement of fifth-grade students' abilities to compose descriptive texts. By fostering a student-centered pedagogical approach, the RADEC model empowers learners to actively engage in the exploration, comprehension, and assimilation of critical principles underlying descriptive writing. Drawing upon their prior knowledge and lived experiences, students are better positioned to interact with and master the writing process, with the RADEC model facilitating a more profound and effective acquisition of the requisite skills for producing high-quality descriptive texts (Setiawan et al., 2020).

This result aligns with the Path Marienko et al., (2020) In an educational system that fosters students' curiosity about technology, encourages active participation, and clarifies learning objectives, the Let's Read digital reading technology enables the adaptation of the education system to accommodate the diverse academic needs and individual characteristics of learners. The RADEC model—comprising Reading, Answering, Discussing, Explaining, and Creating—promotes self-directed learning and strengthens students' writing skills. By progressing through these stages, students gain a deeper understanding of the material while independently and creatively managing their own learning process.

Operationally, the RADEC model provides a structured and effective learning framework grounded in collaboration, where each participant plays a vital framework. This is evident in the learning process, which necessitates ongoing development of participation and cooperation skills. To achieve this, teachers require appropriate support and encouragement. This study employs the RADEC model as an approach to facilitate the development of various student skills, including teamwork and active classroom engagement (Hanum et al., 2023), in the study revealed that the RADEC model proves to be effective in maximizing student capabilities. Their research findings suggest that this model functions not only as a learning method but also as a catalyst for enhancing student collaboration and engagement through activities that foster creativity and innovation. Comprehensively, the study by Sopandi et al., (2021) confirmed the RADEC model proves to be successful in enhancing student involvement and excitement in the learning process.

The RADEC learning model elicited a favorable response from the students, a perception that aligns with and further substantiates the overall conclusions drawn from the research findings (Maftuh et al., 2024). As stated by Maftuh et al. (2024), the RADEC learning model, which encompasses five integral components—Reading, Answering, Discussing, Explaining, and Creating—represents a structured pedagogical framework designed to cultivate active and meaningful student engagement. This instructional model was formally introduced at an international academic forum convened in Kuala Lumpur, Malaysia, and has since demonstrated considerable potential in equipping students

with the adaptive competencies required to navigate the demands of a rapidly evolving global context. Empirical evidence suggests that the application of the RADEC approach not only fosters heightened levels of student participation within the learning environment but also contributes to the cultivation of a more enjoyable and intrinsically motivating educational experience. These findings reinforce the proposition that the RADEC model plays a significant role in enhancing students' academic performance and overall learning outcomes (Ratnasari & Sukmawati, 2023).

A key advantage of the RADEC model lies in its emphasis on instruction that prioritizes the development of problem-solving skills, thereby fostering students' critical thinking abilities. This focus on critical thinking is highly valuable in education, as it not only improves academic achievement but also equips students with essential skills to address real-world challenges. Moreover, the RADEC model is well-aligned with the characteristics of Indonesian students and the national curriculum, facilitating its application by teachers. Its student-centered approach promotes active engagement, deeper conceptual understanding, enhanced problem-solving abilities, and creativity. Additionally, the RADEC model has been demonstrated to support improvements in scientific literacy, comprehension of mathematical concepts, and mastery of content across diverse subject areas (Afandi et al., 2024).

Previous research findings suggest that an individual's critical and creative thinking regarding the Indonesian language can substantially influence their writing abilities (Anita & Syam, 2024). However, previous research has generally focused on the relationship between high-level thinking skills. Fauziah & Sukmawati, (2023), Focusing primarily on the enhancement of writing skills within multi-literacy education, this study highlights the importance of writing as a key 21st-century competency. It demonstrates how the use of the Let's Read application can support students in articulating their ideas and managing the complexities of information in the digital age (Imran et al., 2011). Therefore, it is very important to foster a positive attitude towards Indonesian language lessons among students (Zahran, 2024). This positive attitude not only motivates students to enhance their writing skills but also encourages the use of diverse strategies for generating ideas, selecting appropriate vocabulary, and organizing content in a coherent and logical manner (Fadil & Ramadhan, 2023).

Student-centered learning motivates learners to engage actively in their educational journey by communicating descriptive text material to their peers so they can better understand and think critically (Ardianti et al., 2023). The incorporation of the Let's Read application into the RADEC instructional framework significantly enriches the learning experience by introducing elements of interactivity and creativity that heighten student engagement. This integration not only motivates learners to actively engage in reading and comprehension activities but also facilitates collaborative discussion and the subsequent articulation of ideas in written form, thereby promoting a more confident and dynamic progression in the development of their writing competencies (Ermerawati, 2019). According to Fatimah et al. (2024) The RADEC instructional model serves as a catalyst for the cultivation of students' foundational competencies by systematically encouraging autonomous problem-solving and the facilitation of collaborative discourse centered on descriptive text materials throughout the learning process. Through this pedagogical approach, students are empowered to refine their critical thinking abilities by engaging in analytical reasoning and assessing the credibility and relevance of informational sources used to construct and convey meaning.

The author selected the RADEC educational framework to enhance students' skills in writing descriptive texts, as this model promotes independent learning aligned with the sequential stages of RADEC. It encourages students to build understanding through activities such as reading, answering questions, engaging in discussions, explaining concepts, and creating original work, enabling them to tailor their learning to their individual needs and abilities. Moreover, this approach supports students

in gaining a deeper awareness of their surroundings and making more informed decisions when heading various everyday challenges.

By preparing in advance, students are afforded additional time to grasp the challenging aspects of the Indonesian language material, which helps alleviate anxiety or apprehension toward the subject. When classroom instruction prioritizes discussion and collaborative work, students have the opportunity to seek clarification from the teacher or engage in dialogue with peers about difficult concepts related to descriptive texts. This instructional approach not only enhances students' comprehension of the subject matter but also cultivates heightened levels of intrinsic motivation and positive affective engagement toward the process of learning the Indonesian language. This assertion is backed by research performed by Hanum et al., (2023) The implementation of the RADEC (Read, Answer, Discuss, Explain, and Create) instructional model fosters a pedagogical environment that actively nurtures students' enthusiasm for learning, particularly in articulating their ideas through written expression, especially when supported by the integration of the Let's Read digital application. This study provides an in-depth investigation into the effectiveness of the RADEC model in strengthening the descriptive writing abilities of fifth-grade elementary students, with a specific focus on educational settings in the East Jakarta area. The empirical findings further reveal that the RADEC model not only enhances students' conceptual understanding of writing but also contributes to positioning the Indonesian language as an intellectually stimulating and contextually relevant subject. By reframing Indonesian as a vehicle for both communication and collaborative learning, this pedagogical approach encourages the development of a more positive and engaged learner disposition toward the subject.

CONCLUSION

This research presents a compelling illustration of how the RADEC (Read, Answer, Discuss, Explain, and Create) pedagogical framework can be strategically implemented alongside the Let's Read digital application to foster measurable enhancements in the descriptive writing proficiency of fifth-grade elementary students. What sets this study apart is its deliberate synthesis of an established instructional model with child-oriented digital literacy tools, a combination that not only cultivates students' expressive and compositional skills but also encourages higher-order thinking, nurtures creative expression, and stimulates greater learner engagement and active participation within the classroom environment. As a result, the findings underscore the potential of such integrative approaches to inform the development of innovative, digitally enriched instructional paradigms that align with the evolving competencies required in 21st-century education. Notwithstanding its contributions, this study is constrained by the brevity of the implementation period, which inherently limits the capacity to ascertain the sustained impact of the RADEC instructional model on the development of students' writing competencies over time. Moreover, the presence of technical challenges—such as limited access to appropriate digital devices and inconsistent internet connectivity—further mediates the effectiveness and scalability of the learning intervention. In light of these limitations, it is imperative that future investigations adopt a longitudinal design and broaden the scope of implementation across diverse educational levels and institutional contexts, thereby enhancing the external validity and general applicability of the research outcomes. The outcomes derived from this research provide a critical foundation upon which educators and educational stakeholders can construct more dynamic, innovative, and technology-integrated pedagogical strategies for teaching writing. To facilitate the effective operationalization of the RADEC instructional framework within the broader agenda of sustainable digital literacy, it is essential to implement comprehensive professional development initiatives that equip teachers with the competencies necessary for integrating technological tools into instructional practices. Equally important is the establishment of robust digital infrastructure, which serves as a prerequisite for ensuring equitable and consistent access to technology-enhanced learning environments.

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