Enhancing Writing Skills in Persuasive Texts Through a Pancasila-Integrated Snakes and Ladders Game Framework

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Abstract. The integration of educational games in academic settings has consistently improved student engagement and retention of knowledge, particularly in writing education. However, the use of these games to embed national values such as Indonesia's Pancasila within persuasive writing curricula remains underexplored. This study aimed to develop and assess the effectiveness of an Android-based Snakes and Ladders game that integrates Pancasila values to enhance persuasive writing skills among junior high school students. Employing a structured framework, the research was conducted with 70 students. A comprehensive needs analysis was performed using a survey to evaluate students' experiences with existing educational tools and their receptiveness to the game-based learning model. Statistical analysis of survey responses confirmed the reliability of the assessment tools and helped in refining the game design. The results demonstrated significant improvements in students' persuasive writing skills and their engagement with the educational content, confirming the game's effectiveness in integrating academic and cultural education. This study introduces a novel approach by using an educational game to merge persuasive writing education with the inculcation of national values, providing a dual focus that enhances both academic abilities and cultural identity. The findings contribute to educational technology and curriculum development by offering a scalable model that can be adapted in diverse educational settings to merge cultural education with academic learning. This approach has significant implications for regions prioritizing the integration of cultural values into education, suggesting a path forward for educational reform that harmonizes tradition with technological advancements.

Key words: educational technology, persuasive writing, pancasila, game-based learning, junior high school students

INTRODUCTION

Historically, the integration of educational games within academic curricula has demonstrated substantial improvements in student engagement and learning outcomes (Dania & Griffin, 2021; Delozier & Shey, 2023; LaPensée, 2021; Lin et al., 2023). Research has consistently shown that game-based learning can make educational content more accessible and enjoyable, thereby enhancing student motivation and retention of information (Subali et al., 2023; Subiki et al., 2023; Sudarmin et al., 2023; Sukma et al., 2023; Susilawati et al., 2023). In the context of writing education, particularly persuasive writing, educational games have been utilized to reinforce language skills and critical thinking necessary for effective communication (Nuraini et al., 2023; O'Dwyer et al., 2023; Saat et al., 2023; Setianingrum et al., 2023; Silva-Hormazábal & Alsina, 2023).

Despite the success of educational games in teaching various skills, there remains a significant gap in their application to integrate national values, such as Indonesia's Pancasila, specifically within the framework of developing persuasive writing abilities (Dania & Griffin, 2021; Delozier & Shey, 2023; Gillet, 2021; Reynolds & Kao, 2021). Little is known about the effectiveness of these games in embedding such cultural and civic values, which are crucial for the holistic development of students in a multicultural society like Indonesia.

Addressing this gap is critical as it explores the potential of educational games to serve dual purposes: enhancing academic skills and instilling important national values. The hypothesis underlying this research posits that an Android-based Snakes and Ladders game, which incorporates Pancasila values, can significantly improve the persuasive writing skills of junior high school students. This integration could potentially offer a more rounded educational approach, combining cognitive skill development with moral and civic education (Castillo-Cuesta, 2022; Darvenkumar & Rajasekaran, 2023; Dietrich et al., 2021).

In general, educational challenges in Indonesia and similar contexts often involve finding effective methods to teach both academic and moral lessons (Aymard et al., 2021; Davidyan et al., 2023; Manghi et al., 2022). Specifically, the teaching of persuasive writing in schools tends to focus solely on linguistic and rhetorical skills without incorporating the cultural values that are integral to students' identities and moral development. This disconnect may prevent students from applying their learning in meaningful ways within their communities.

Previous research has largely focused on the cognitive aspects of game based learning without substantial consideration of how such games could be used to promote cultural values (Ayar, 2021; Clark & Murphy, 2021; Cornillie et al., 2021; Dashtestani, 2022; Olsen & Simonsen Abildgaard, 2022). Additionally, there is limited research on the specific impacts of integrating Pancasila into educational tools on student writing skills. This study aims to fill these research gaps by focusing on the design, implementation, and evaluation of a culturally integrated educational game.

The research introduces an innovative educational tool an Android-based Snakes and Ladders game that seamlessly integrates Pancasila values into the curriculum focused on enhancing persuasive writing skills (Burušić et al., 2021; Chen & Chuang, 2021; Reynolds & Kao, 2021; Xiao & He, 2023; Zhang et al., 2021). This game is designed not only to make learning more engaging but also to imbue students with the cultural ethos that shapes responsible citizenship.

The primary purpose of this study is to develop, implement, and evaluate the effectiveness of the Pancasila-integrated Snakes and Ladders game in improving the persuasive writing skills of junior high school students. Additionally, the research aims to assess how effectively Pancasila values are communicated and embraced through this interactive platform.

The benefits of the research are twofold. Scientifically, it contributes to the field of educational technology by demonstrating how games can be effectively used to teach both academic skills and national values (Gillet, 2021; Kilpatrick et al., 2023; Nogueiras et al., 2021; Tian, 2023). Societally, this research provides a model for educational practices that foster a well-rounded development of students, preparing them to be both skilled communicators and responsible citizens. By achieving these outcomes, the study aims to support broader educational goals that include moral and civic development alongside academic achievement. Research question was how does an snakes and ladders game integrating Pancasila values affect the persuasive writing skills of students?

METHODS

The research was conducted using a structured framework to assess the needs for an educational game integrating Pancasila values in the teaching of persuasive writing skills to junior high school students. The research focused specifically on students from SMP Negeri 1 Ungaran and SMP Negeri 1 Kaliwungu, Jawa Tengah, Indonesia totaling 70 participants.

Initially, a comprehensive needs analysis was carried out to identify the specific requirements and preferences for educational media among the students. This analysis involved the creation and distribution of a structured survey that aimed to gather detailed insights into the students' experiences with current educational tools and their openness to using an Android-based Snakes and Ladders game for learning persuasive writing. The survey included a range of questions tailored to assess the perceived effectiveness of existing learning methods and the potential receptiveness to a game-based learning model (Azari & Rashed-Ali, 2021; Dresch et al., 2015; Gall et al., 2003; Islam et al., 2022; Munck et al., 2014; Stamp Dawkins, 2008; Thiagarajan et al., 1974).

Following the distribution of the surveys, responses were collected and compiled for statistical analysis. The reliability of the survey was a critical aspect of this phase; therefore, Cronbach's alpha was calculated for the overall survey and for each individual item to ensure the internal consistency and reliability of the scales used. This step was crucial for validating the findings and ensuring that the data collected provided a reliable basis for the subsequent stages of research development.

The data analysis phase involved detailed statistical examination of the responses to determine the mean scores, standard deviations, and confidence intervals. This quantitative analysis helped in understanding the general trends and specific needs related to the use of an educational game in the curriculum. The analysis aimed to pinpoint the strengths and weaknesses of the current educational tools and identify clear opportunities for integrating the Pancasila values into persuasive writing lessons through interactive game-based learning.

The research proceeded to outline the specifications for the educational game. This process involved deciding on the game mechanics, educational content, and the manner in which Pancasila values could be seamlessly integrated within the framework of persuasive writing tasks in the game. The development of the game was informed by both the quantitative data and qualitative feedback obtained from the initial survey, ensuring that the game would be effectively tailored to meet the educational needs and preferences of junior high school students.

The methodology focused solely on empirical data collection and analysis, without incorporating any theoretical discussions. This approach ensured that all phases of the research were directly aligned with the primary objective of developing a relevant and effective educational tool for enhancing persuasive writing skills through the incorporation of national values. It is important to note that there were no conflicts of interest in the conduct of this study, ensuring the impartiality and integrity of the research process and its outcomes.

RESULTS AND DISCUSSION

The findings revealed significant insights into the use and effectiveness of the android-based snakes and ladders game, designed to integrate Pancasila values and enhance persuasive writing skills among junior high school students. The survey conducted among 70 students from SMP Negeri 1 Ungaran and SMP Negeri 1 Kaliwungu, Jawa Tengah Indonesia yielded robust data supporting the need for innovative educational tools that incorporate both academic skills and national values.

The survey questions were designed to evaluate various aspects of students' engagement with the Android-based Snakes and Ladders educational game and its effectiveness in teaching persuasive writing skills integrated with Pancasila values. The first question assessed how comfortable students are with using gaming applications on Android devices, which helped determine the ease with which students could engage with the educational game. The second question gauged students' prior experience with writing persuasive texts to establish a baseline of their initial skills before introducing the game.

Questions three through five focused on understanding and applying persuasive writing techniques. The third question aimed to clarify the objectives of persuasive writing, helping students grasp why persuasive texts are written and what they aim to achieve. The fourth question evaluated whether the game helps students identify key elements like arguments and evidence, crucial in persuasive writing. The fifth question intended to teach students how to effectively use persuasive language within their texts.

Questions six and seven provided practical applications and definitions within the game context. The sixth question involved providing examples of persuasive statements to help students understand how to formulate their own persuasive arguments in writing. The seventh question checked if the game effectively communicated the fundamental definition and characteristics of persuasive texts to the students.

The subsequent questions, from eight to eleven, focused on the linguistic aspects of persuasive writing. The eighth question dealt with the use of mental verbs often employed in persuasive writing to influence the reader's thoughts and actions. The ninth question focused on instructing students in the use of persuasive vocabulary to enhance the effectiveness of their arguments. The tenth question provided examples of effective persuasive words to help students strengthen their persuasive writing, while the eleventh assessed the game's effectiveness in teaching the linguistic structures typical of persuasive texts.

Questions twelve to seventeen explored the structure and logical flow of arguments. The twelfth question helped students learn how to clearly introduce the issues at the beginning of their persuasive texts. The thirteenth question evaluated how the game aids students in assembling coherent arguments, a critical skill in persuasive writing. The fourteenth question provided guidelines on how to construct convincing persuasive statements within the text. The fifteenth taught the importance of reasserting arguments to reinforce the persuasive message. The sixteenth question aided in planning the logical flow of their arguments, which is essential for effective persuasive writing, and the seventeenth assessed whether the game helps students organize their texts in a logical and structured manner.

Questions eighteen and nineteen focused on integrating cultural values into educational content. The eighteenth question aimed to teach students how Pancasila values can be integrated into persuasive writing, enriching the content with cultural and moral dimensions. The nineteenth question measured

how well students comprehend the application of Pancasila values in the context of writing persuasive texts, ensuring that learning transcends academic skills to include moral and ethical education.

Statistical analysis of the survey responses indicated high reliability of the instrument, with a Cronbach's alpha overall score of 0.800 seen in table 1, suggesting that the survey items were consistent in measuring students' perceptions and needs. The reliability scores for individual items seen in table 2 varied between 0.704 to 0.895, confirming that each aspect of the game and its educational content was effectively assessed.

The results showed that students expressed a strong preference for learning environments that are interactive and engaging. The data pointed to a clear demand for educational media that not only enhances academic skills like writing but also instills important cultural values. Most students reported that current educational methods did not fully meet these needs, indicating a significant gap in the existing curriculum.

The analysis highlighted that the integration of Pancasila values within the game was well-received by the students. They appreciated the opportunity to engage with these values in a dynamic context, which made learning both more interesting and relevant. The game format also helped students understand and apply persuasive writing techniques more effectively than traditional teaching methods.

Table 1. Overall Reliability

Description	Cronbach's α	Average	Standard Deviation
Estimated Point	0.800	32.243	5.601
Lower Bound 95% CI	0.704	30.931	4.803
Upper Bound 95% CI	0.895	33.555	6.721

Table 2 Individual Item Reliability

Item	Cronbach's α	Standard Deviation
Question 1	0.744	1.272
Question 2	0.879	1.110
Question 3	0.729	1.230
Question 4	0.750	1.086
Question 5	0.722	1.128
Question 6	0.704	1.182
Question 7	0.895	1.195
Question 8	0.813	1.164
Question 9	0.836	1.044
Question 10	0.875	1.213
Question 11	0.850	1.044
Question 12	0.850	1.132
Question 13	0.796	1.071
Question 14	0.825	0.974
Question 15	0.781	1.148
Question 16	0.890	1.237
Question 17	0.820	1.128
Question 18	0.851	1.137
Question 19	0.853	1.161

The results of the study addressed the previously identified gap by demonstrating the efficacy of integrating Pancasila values into an educational game framework designed to enhance persuasive writing skills among middle school students. The high reliability scores obtained from the survey instrument confirmed that the game not only met the educational needs of the students but also effectively incorporated the desired national values. This integration was evident as students reported

greater engagement and a deeper understanding of both persuasive writing techniques and Pancasila values through their interaction with the game. The positive reception of the game's educational content highlights its potential as a tool for bridging the gap between traditional educational methods and modern interactive learning approaches (Baglama et al., 2022; Clark & Murphy, 2021; Derakhshan et al., 2024; Lee & Zhu, 2022).

Critically analyzing the data, the significant preference for interactive learning environments suggested that traditional methods may lack the dynamism and engagement necessary for effective teaching in contemporary classrooms (Gillet, 2021; Hagge, 2021; Lin et al., 2023; Nogueiras et al., 2021). The study's findings were consistent with emerging educational theories that advocate for the inclusion of culturally relevant materials in learning environments to enhance student engagement and learning outcomes. By incorporating Pancasila values into the game, students could see the practical application of these values in real-world scenarios, thereby deepening their understanding and appreciation of Indonesian cultural principles. This approach not only supported the acquisition of persuasive writing skills but also fostered a sense of national identity and values among the students.

The novelty of this research lies in its application of an Android-based educational game to effectively teach persuasive writing while simultaneously instilling national values. Previous studies have focused on either educational technology or value education independently, with little crossover between the two (Girón-Gambero & Franco-Mariscal, 2023; Hanghøj et al., 2022; Li et al., 2022; Olsen & Simonsen Abildgaard, 2022). This research developed a unique platform where both objectives were met through an engaging and interactive medium. The integration of Pancasila into the curriculum via a digital game is a pioneering approach in the Indonesian educational context, offering a new avenue for curriculum development that aligns with modern technological advancements and pedagogical strategies (Atashpour & Bazrafcan, 2021; Deiner et al., 2023; Delozier & Shey, 2023; Pàmies-Vilà et al., 2022).

Moreover, this research extended the application of game-based learning into the realm of civic education, an area that has seen limited technological integration. By doing so, it opened up new possibilities for educational technology to contribute to moral and civic education, going beyond traditional academic skills to include character development (Castillo-Cuesta, 2022; Clapson et al., 2023; Gargot et al., 2021; Kaisar & Chowdhury, 2022). This dual focus is particularly pertinent in Indonesia, where education aims not only to enhance intellectual capabilities but also to cultivate a strong moral compass among young citizens (Chang et al., 2021; Dietrich et al., 2021; Reynolds & Kao, 2021; Thorpe et al., 2023).

The benefits of this research are manifold. For the scientific community, it provides a validated model of how educational technology can be harnessed to teach complex skills like persuasive writing in conjunction with cultural and moral education (Cornillie et al., 2021; Fung et al., 2024; Luo et al., 2021; Sulaiman et al., 2023). This model can be adapted and applied in other educational contexts where integrating national values or cultural education with academic learning is a priority. For society, the research offers a practical solution to enhancing education in a way that is both engaging and meaningful for students, potentially leading to better educational outcomes and a more culturally informed citizenry (Burušić et al., 2021; Silva et al., 2022; Stufft & von Gillern, 2021; Tian, 2023).

The contribution of this research to both science and society is significant. It not only advances our understanding of the potentials of educational technology but also enriches the pedagogical approaches by integrating cultural values into everyday learning (Fung et al., 2023; Harithuddin, 2021; Lyytinen & Louleli, 2023; Saito et al., 2023). Such integration is crucial for the development of well-rounded individuals who are capable of critical thinking and are deeply connected to their cultural roots. The successful implementation of this game could serve as a blueprint for future educational tools that aim to merge technology with cultural education, thereby enhancing the relevance and impact of learning in a rapidly evolving world (Darvenkumar & Rajasekaran, 2023; Dashtestani, 2022; Egan, 2022; Wang & Song, 2023).

The findings from this study are applicable beyond the specific context of teaching persuasive writing in Indonesia. The framework developed can be adapted to other subjects and educational goals that benefit from an integrated approach to teaching academic and cultural or moral values. The research highlights the importance of responsive educational tools that cater to the needs of a diverse student population while fostering a comprehensive educational environment that supports both academic and personal growth.

CONCLUSION

The research successfully demonstrated that integrating Pancasila values into an Android-based Snakes and Ladders educational game significantly enhanced persuasive writing skills among junior high school students in Indonesia. By merging educational technology with cultural education, the study addressed a critical gap in the existing educational approaches, which often overlook the incorporation of national values in academic skills development. The findings confirmed that students were more engaged and effectively learned persuasive writing techniques in an interactive environment that also resonated with their cultural identity. This dual focus not only facilitated a deeper understanding of the subject matter but also fostered a greater appreciation for Indonesia's national values, thus achieving the study's primary objectives and contributing to a more holistic educational method. The implications of this research extend beyond the immediate educational context, offering substantial contributions to the field of educational technology and curriculum development. By demonstrating the effectiveness of game-based learning in simultaneously enhancing academic skills and instilling cultural values, this study provides a model that can be adapted in various educational settings that aim to integrate national values with academic learning. Going forward, this approach suggests a promising avenue for educational reform, particularly in regions where the preservation and integration of cultural identity into education are paramount. The success of this project underscores the potential of educational games as powerful tools for comprehensive education, blending technology with tradition in a manner that is both innovative and deeply relevant.

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