"Utilizing AI-Based Learning Media via the Muzzy Lane Platform to Improve Students' Civic Participation"

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Abstract

Civic participation is a key indicator in civic education, reflecting students' awareness, critical thinking, and active engagement in community life. This study aims to (1) explore the potential of Artificial Intelligence (AI)-based learning media through the Muzzy Lane platform in supporting the teaching of Pancasila Education, and (2) analyze the contribution of this media in enhancing students' civic participation. The study employs a descriptive qualitative approach using a literature review as the method of data collection. The findings reveal that the Muzzy Lane platform holds strong potential as an AI based learning media by providing interactive content, realistic simulations, and role-based learning experiences. These features effectively support the learning objectives of Pancasila Education by offering relevant and engaging contexts for students. Furthermore, Muzzy Lane contributes positively to improving students' civic participation, as evidenced by its ability to foster critical understanding of social issues, build awareness of civic responsibilities, and facilitate active involvement in decision-making based on Pancasila values. Therefore, the use of AI-powered learning media like Muzzy Lane not only enhances instructional effectiveness but also plays a vital role in cultivating civic participation as an integral part of civic education.

Keywords: Instructional Media, AI Muzzy Lane, Civic Participation.

Introduction

Pancasila education, as the moral and ideological foundation of the Indonesian nation, aims to shape citizens who are aware, critical, and actively involved in national and state life. Civic participation is one of the key indicators of the success of citizenship education, as it reflects students' ability to understand, internalize, and practice the democratic values learned in their daily lives.

According to Winataputra (2016), civic participation is the core of the citizenship education process because through participation, students learn to exercise their rights and fulfill their responsibilities as citizens. Sapriya (2017) emphasizes that citizenship education in Indonesia should be directed towards the formation of intelligent, active, and responsible citizens in a democratic society. Therefore, fostering civic participation from a young age is an urgent necessity to prepare a generation capable of contributing to society, the nation, and the state.

However, in practice, student involvement in civic activities often remains minimal and formalistic. Many students perceive Pancasila education as a normative subject without experiencing its direct relevance to their lives. Hoskins and Mascherini (2009) emphasize that civic participation will not develop through passive learning alone, but requires experiences involving critical analysis, reflection, and engagement in situations resembling real-life contexts. This highlights the gap between the normative objectives of Pancasila education and the reality of student involvement in

schools.

In line with technological advancements, the use of Artificial Intelligence (AI)-based learning media has become an alternative that can bridge this gap. AI-based media enables the presence of more interactive, adaptive, and experiential learning. Muzzy Lane, as one of the roleplay simulation platforms, offers a learning approach that resembles real-life experiences, where students can directly engage in decision-making processes, test the consequences of their actions, and develop critical thinking skills. Kolb (2015), through the experiential learning theory, also emphasizes that direct experiences are one of the most effective ways to build knowledge while fostering social and moral awareness.

Conducting research on the use of Muzzy Lane in the context of Pancasila Education is important because it can present a learning innovation that is not only focused on cognitive mastery but also on the internalization of values and citizenship practices in students' real lives. Furthermore, the digital generation, which has grown up with technology, demands learning strategies that align with their learning styles, which tend to be visual, interactive, and participatory. Therefore, this study is significant to provide conceptual and practical contributions on how AI-based learning media can play a role in enhancing civic participation as an integral part of Pancasila Education.

Literature Review

Artificial Intelligence in Education

Artificial Intelligence (AI) is a branch of science and technology aimed at developing computer systems capable of mimicking and performing tasks that require human intelligence. According to John McCarthy (1956), AI can be understood as the science and engineering of creating intelligent machines, particularly computer programs that possess cognitive abilities. The main goal of AI is to design systems that are not only able to think logically but can also solve problems and make decisions based on understanding, experience, and the data they have. Suciati et al. (2023) state that AI is a rapidly growing field in today's digital era. Its ability to process and analyze data more quickly and efficiently than humans is one of the main reasons why this technology is becoming increasingly popular and applied across various sectors, including education.

According to Rochmawati, Arya, & Zakariyya (2023), the application of AI in the education sector has had a significant positive impact. One of the main applications of AI is in the personalization of learning, where this technology can adapt the learning material to meet the specific needs of each student. By deeply analyzing data, AI can identify learning styles, comprehension levels, and learning preferences, thus creating a customized learning experience for every student.

For students, the implementation of Artificial Intelligence (AI) brings significant positive effects, particularly in terms of increased motivation and engagement in the learning process (Xia et al., 2022). One of the primary benefits of AI is its ability to enhance students' interest in learning. Research by Lin and Chang (2020) shows that this technology can capture students' attention and make them more engaged in learning. Additionally, AI facilitates the creation of an interactive and engaging learning environment, one example being specialized tools like Smart Sparrow, which has been proven to increase student engagement with learning material (Karsenti, 2019).

Various studies have demonstrated that AI technology can significantly contribute to improving students' academic achievements (Khan et al., 2021; Kim et al., 2021). AI not only enhances learning outcomes but also plays a role in increasing students' happiness during the learning process (Winkler & Soellner, 2018). This technology also serves to maximize learning potential and student achievement, as evidenced by Clarizia et al. (2018) in their study, which shows the positive impact of AI on students' academic progress.

One of the main reasons behind the increase in student motivation and academic achievement is AI's ability to provide personalized learning experiences tailored to each individual's needs. This has proven to be effective in creating a more enjoyable and meaningful learning process for students. With a more personalized learning experience,

students feel more valued and are encouraged to continue progressing.

AI-Based Learning Media

Learning media essentially refers to tools used to deliver information from the communicator (teacher) to the communicant (students) as the message receivers. When the learning environment is designed systematically and effectively, it will support the achievement of learning objectives to the fullest. With proper planning, learning media can function not only as an aid in delivering content but also as a means to create more effective and efficient learning experiences for students (Saleh et al., 2023).

The primary function of learning media is to create conditions that enable students to absorb knowledge accurately and deeply, develop their cognitive capacities, and shape good character. In the teaching process, teaching aids or media play a crucial role in each stage of learning. These media not only assist in the delivery of content but are also effective in generating motivation and interest in students, which in turn increases their engagement in the learning process.

Learning media includes any form of tool used to support the educational process, whether physical or technological. According to Arsyad (2011), learning media acts as a bridge between the material being taught and the students, helping to create a more effective learning experience. This media is not limited to traditional tools but also includes advanced technologies such as Artificial Intelligence (AI)-based software, which can enrich students' learning experiences by presenting more engaging, interactive, and easily comprehensible content.

In the context of Pancasila Education, AI-based learning media provides opportunities for students to participate in simulations that resemble real-life situations, such as making social or political decisions. Such simulations allow students to learn from their own experiences, test the theories they have learned in more realistic scenarios, and develop critical thinking skills that are essential for building social awareness. This approach aligns with Kolb's (2015) experiential learning theory, which emphasizes that direct experience is one of the most effective ways to deepen understanding and skills.

Furthermore, Hoskins and Mascherini (2009) argue that the use of interactive learning media can increase student participation in the learning process. This is particularly true when the media provides context that is relevant to students' lives and motivates them to engage more deeply in their learning.

Thus, AI-based learning media not only enhances the effectiveness of the learning process but can also serve as a solution to improve student engagement in civic education, which is often considered less relevant and overly normative when taught through conventional methods. Additionally, AI-based media offers the ability to present learning material adaptively and personally, according to the speed and learning style of individual students. This approach enables a more customized learning experience, improving students' understanding of the topics being taught and facilitating the achievement of better learning outcomes.

Civic Participation

Civic participation refers to an individual's involvement in activities that affect public life, whether in the form of political decision-making, fulfilling social obligations, or participating in community organizations. This engagement can take various forms, such as voting in elections, participating in protests or demonstrations, and contributing to community forums and other social activities. Civic participation plays a crucial role in shaping a healthy democracy, ensuring government accountability, and strengthening social bonds between citizens and the state.

According to Putnam (2000), civic participation, or active citizenship in social and political activities, can strengthen social networks that support each other and increase trust among citizens. This participation serves as a primary channel for expressing social and political aspirations, which, in turn, contributes to more inclusive and just policies.

Budimansyah (2003) explains that civic participation is both a right and a

responsibility for citizens to engage in democratic processes at both local and national levels. He also emphasizes that civic participation in Indonesia is closely related to the culture of "gotong-royong" (mutual cooperation), where citizens actively participate in social and community activities, contributing ideas, efforts, and resources for the common good.

In the context of education, civic participation refers to the active involvement of students, educators, and the community in activities related to the development of democracy, citizenship, and social life. Education plays a crucial role in preparing individuals to become active and responsible citizens. Citizenship education is one of the primary means of developing civic participation among students. According to Westheimer and Kahne (2004), effective citizenship education aims to teach students about their rights and responsibilities as citizens and how to participate in a democratic system. By learning about government, human rights, laws, and democratic principles, students are prepared to engage actively in political, social, and economic life.

Muzzy Lane Platform

Muzzy Lane *Author* is a browser-based platform that allows the creation of interactive learning simulations using Generative AI (GenAI) technology. This platform is designed to assist educators in developing realistic role-play simulations, enabling students to apply knowledge in real-world contexts. By leveraging AI, the platform allows for the efficient creation of content that can be tailored to meet specific needs across various subjects and educational levels (Muzzy Lane, 2023). The primary goal of using Muzzy Lane *Author* is to provide educators with a tool to create deeper and more interactive learning experiences.

Benefits of Muzzy Lane Platform

1. Higher Student Participation

One of the greatest benefits of Muzzy Lane *Author* is its ability to enhance student participation. Role-playing simulations allow students to actively engage in their learning, which increases their involvement with the material being taught. By giving them the opportunity to make decisions in real-world contexts, students become more interested and feel that they have more control over their learning process (Muzzy Lane, 2023).

2. More Personalized Assessment

By using AI, this platform can provide personalized feedback based on students' decisions in the simulations, reinforcing their learning and increasing motivation to continue learning (Muzzy Lane, 2023).

3. Time and Cost Savings for Educators

This platform simplifies the creation and management of simulations, allowing educators to save time in developing learning materials, which can then be allocated to focus more on teaching and direct student interaction (Muzzy Lane, 2023).

Method

This study employs a descriptive qualitative approach with a literature review method for data collection. This technique was chosen to explore information from various relevant sources related to the use of the Muzzy Lane platform as an AI-based learning media in the context of Pancasila Education. The data collection process involved searching for literature from journal articles, books, and related documents that discuss the application of the Muzzy Lane platform in education and its contribution to enhancing student civic participation. The gathered data was then analyzed qualitatively to identify the potential of the platform in supporting learning objectives and its role in encouraging student civic participation.

Result and Discuss

This section presents an in-depth review of previous studies that are relevant to the use of Artificial Intelligence (AI)-based platforms, particularly *Muzzy Lane*, in supporting Pancasila Education and enhancing student civic participation. Below are studies that provide valuable insights into the potential of such platforms:

1. Study by Zhang, W., Lim, G., Perrault, S., & Wang, C. (2022)

Zhang et al. (2022) in their study discuss the use of information and communication technology (ICT) to enhance civic participation in society, or *civic tech*. The findings indicate that civic tech platforms can increase citizen participation in decision-making and public discussions, expanding access for community engagement in the political process.

Although this study focuses more on the application of technology in society, its findings are relevant to the use of *Muzzy Lane* in civics education. By providing a platform for students to engage in simulations of decision-making based on Pancasila values, *Muzzy Lane* supports the development of active student participation in democratic life, similar to the concept of civic tech that enhances participation through technology.

2. Study by Berson, Berson & Snow (2017)

Berson, Berson, and Snow (2017) conducted research on the use of KidCitizen, a technology-based application designed to teach civics to students. This study showed that KidCitizen can enhance visual literacy and critical thinking skills in students through the presentation of primary sources, such as historical photographs, facilitating interactive learning where students actively engage in the learning process.

This study supports the potential of *Muzzy Lane* as an AI-based learning platform that provides an interactive experience for students. Like KidCitizen, *Muzzy Lane* also presents content that enables students to learn directly through simulations, improving their understanding of social issues and civics. The interactive features of *Muzzy Lane* can encourage students to think critically, similar to the findings of this study. By providing simulations and role-playing learning, *Muzzy Lane* not only engages students at a basic level but also deepens their understanding of social responsibility.

3. Study by Pak, B., Chua, A., & Moere, A. V. (2017)

This study analyzes the use of crowdsourced civic participation platforms, such as FixMyStreet in Brussels. The findings show differences in civic participation based on socio-demographic factors, and platforms like these can facilitate active community involvement in community-based decision-making.

The relevance of this study lies in its demonstration of how digital platforms can serve as tools to engage the public in decision-making processes. *Muzzy Lane*, while focusing on education, can similarly use its role-playing simulations to create a space where students actively participate in decision-making processes, potentially leading to a greater understanding of community issues and social responsibility.

Muzzy Lane can be seen as a similar platform in the context of education, where students actively participate in decision-making simulations based on Pancasila values. In this way, Muzzy Lane not only enhances students' academic knowledge but also strengthens their civic participation, enabling them to understand their role in making decisions that affect society, which aligns with the findings of Pak et al. (2017).

Based on the literature review conducted, the results show that Muzzy Lane is an AI-based learning media platform that can support the learning process of Pancasila Education. Its interactive features, realistic simulations, and role-playing learning experiences provide relevant and engaging contexts for students, thus supporting the achievement of the learning objectives of Pancasila Education.

Previous studies on the use of technology in civics education show similar results. For instance, Berson et al. (2017) found that interactive media such as the KidCitizen application could improve students' visual literacy and critical thinking skills. This indicates that AI-based technology, which presents interactive and role-based content, can enhance student engagement in civics learning, similar to the potential of Muzzy Lane.

Furthermore, research by Lin and Chang (2020) revealed that AI-based learning technology can capture students' attention and increase their motivation to learn. AI enables the creation of an interactive, adaptive, and responsive learning environment that encourages students to be more active in the

learning process. Karsenti (2019) added that platforms such as Smart Sparrow have been shown to increase student engagement with learning material through the presentation of personalized and contextual content.

By combining these findings, Muzzy Lane serves not only as a medium for delivering content but also as a tool for developing critical thinking skills, social awareness, and active student participation in societal contexts. The platform allows students to experience decision-making simulations, solve social issues, and understand their responsibilities as citizens, thus supporting the development of civic participation, which is a key indicator in Pancasila Education.

This study also shows that Muzzy Lane has significant potential as an AI-based learning media platform, which not only enhances the effectiveness of Pancasila Education learning but also plays an important role in increasing student civic participation. Muzzy Lane uses AI technology to provide interactive content, realistic simulations, and deep role-playing experiences that support the achievement of Pancasila Education goals. Muzzy Lane can offer a learning experience that allows students to actively engage in the learning process, which is highly relevant to the values of Pancasila. The content provided on this platform presents social and political issues related to real-life situations, offering students the opportunity to understand how the principles of Pancasila can be applied in their daily lives.

Conclusion

This study reveals that *Muzzy Lane* has significant potential as an effective AI-based learning tool in the context of Pancasila Education. By providing interactive content, realistic simulations, and role-playing learning experiences, this platform successfully creates a relevant and engaging learning environment for students. The features offered support the achievement of learning objectives by deepening students' critical understanding of social issues, increasing awareness of their responsibilities as citizens, and encouraging active participation in decision-making based on Pancasila values. Therefore, the use of AI-based platforms such as *Muzzy Lane* not only contributes to enhancing the effectiveness of learning but also plays an important role in the development of civic participation as an inseparable part of Pancasila Education.

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