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Analysis of Student Needs in Developing Pancasila Learning Media Based on AI Avatar Generator: Developing Character Education in the Digital Era

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ABSTRACT

This study investigates the use of AI Avatar Generator-based learning media to enhance students' understanding of Pancasila education in junior high schools, focusing on student perceptions in Lahat Regency. Traditional instructional methods are often perceived as less engaging, underscoring the need for innovative approaches to improve educational outcomes. A quantitative descriptive design was employed. Data were collected via purposive sampling from students at several junior high schools in Lahat Regency. An online questionnaire with closed-ended questions was used to assess students' views on the importance of Pancasila education, their level of understanding, and their preferences for technology-based learning. Descriptive statistical analysis revealed that 80% of respondents acknowledged the high importance of Pancasila education, yet only 65% reported a full understanding of the material. Additionally, 89% of students showed strong enthusiasm for the integration of AI Avatar Generators in the learning process. Findings indicated that conventional teaching methods remain dominant and are viewed as insufficiently engaging. The results suggest that AI Avatar Generator-based media may bridge the gap between traditional teaching and students' expectations for interactive learning. By offering personalized and engaging content, this technology has the potential to improve comprehension and foster greater student interest in Pancasila education.

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1. INTRODUCTION

Pancasila education in Indonesia plays a vital role in shaping the nation's character and identity. It aims not only to familiarize students with the historical and philosophical aspects of Pancasila but also to instill its core values, such as tolerance, justice, and togetherness, into their daily lives. However, current teaching methods often face challenges, including students' lack of understanding and application of Pancasila in their daily interactions, which weakens their sense of national and civic

consciousness. This issue is compounded by outdated teaching methods and students' declining interest in subjects perceived as irrelevant. To address these challenges, innovative and relevant approaches are urgently needed to make Pancasila education engaging and impactful for today's digital-native generation. Pancasila education not only aims to introduce students to the history and meaning of Pancasila, but also to internalize the values contained in it, such as tolerance, justice, and togetherness (Noptario, Ade Tinofa, Khoirotun Nisa, Abdullah, & Nazri bin Nordin, 2024). However, in practice, the teaching of Pancasila values often encounters various obstacles. Many students do not understand the meaning and application of Pancasila in their daily lives, which can have a negative impact on their national and state consciousness. This is exacerbated by the lack of innovative and relevant learning methods, as well as students' tendency to decline in subjects that are considered outdated (Budiarti, 2023). This situation requires serious attention from educators and policymakers to develop more effective and relevant learning methods, so that the values of Pancasila can be well understood and applied by the younger generation. Given the challenges faced in Pancasila education, it is time to explore new approaches that can attract students' interest and facilitate a deeper understanding of Pancasila values (Sari, Rejekiningsih, & Muchtarom, 2020).

The urgency of this activity lies in the urgent need to align Pancasila education with current technological developments and student behavior. In the digital age, the younger generation is inseparable from technological devices and social media, which are an integral part of their daily lives (Aprita, Akhiroh, Muslim, & Nurlaila, 2024). They spend a considerable amount of time in the digital world, so it is important for Pancasila education to adapt an approach that can attract their attention and engagement (Chandra, Pargito, Yulianti, & Maulina, 2024). It is a challenge for educators to find new ways to answer the needs of this digital generation. Given the digital age, where students spend significant time using technology and social media, integrating technology into Pancasila education has become a necessity. One promising solution is the use of AI Avatar Generators as interactive learning tools. This technology supports personalized and immersive learning experiences, allowing students to simulate Pancasila values, such as tolerance, cooperation, and justice, in real-life scenarios. By creating engaging and relatable content, this approach ensures that Pancasila values are not only theoretically understood but also practically applied in students' lives (Firdaus & Hermawan, 2023). By using this technology, students can be directly involved in the learning process, so that they not only learn about Pancasila in theory, but also feel it as a part of their lives. This approach is expected to make the values of Pancasila more relevant and contextual for students, so that they can apply them in social interactions and decision-making in the real world. In addition, this technology-based learning media can also overcome the boredom that students often feel in conventional learning, as well as increase their understanding and appreciation of Pancasila as the basis of the state and guidelines for life (Novianto, Mostafa, & Purwanta, 2023).

Moreover, the use of AI Avatar Generators addresses specific challenges in traditional teaching methods, such as student boredom and limited interactivity. This technology offers a modern approach that aligns with students' behavior and preferences, making Pancasila education more contextual and relevant. For instance, statistics reveal the continued dominance of traditional teaching methods in schools and highlight a significant gap in students' understanding of Pancasila, emphasizing the need for transformative educational strategies. By combining innovative technologies like AI Avatar Generators with the principles of Pancasila, educators can overcome existing barriers and foster deeper appreciation and application of these values. This solution represents a step forward in aligning Pancasila education with modern pedagogical approaches, ensuring its relevance in shaping the character of Indonesia's younger generation (Novianto et al., 2023).

A literature review reveals that while technological advancements in education significantly enhance student motivation and engagement, a crucial gap remains in the integration of Pancasila values within technology-based learning. Studies indicate that innovative learning media, especially those leveraging technology, improve students' comprehension and increase the appeal of the learning process (Laila & Saraswati, 2024). Active involvement through technological tools fosters motivation

and enhances information retention. However, despite these innovations, the application of Pancasila values in technology-based education has not been thoroughly explored. Addressing this gap, further research is essential to identify effective strategies for integrating Pancasila values into technology-based learning and developing engaging, relevant content for students (Pajriah, Suryana, & Shavab, 2023).

To address the current challenges in Pancasila education, this study follows a structured problem-solving approach that includes analyzing student needs, developing AI-based learning media, and evaluating its effectiveness in improving students' comprehension. The needs analysis will examine the characteristics and learning preferences of students, enabling the design of media that aligns with their cognitive styles and engagement patterns, as outlined by Akhuai et al. (2022). The goal is to produce interactive learning tools that not only capture student interest but also support deeper understanding and real-life application of Pancasila values.

The central hypothesis of this study is that the use of AI Avatar Generator-based media will enhance students' understanding and application of Pancasila principles. Yulia, Henita, Gustiawan, and Yeni Erita (2022) emphasize the importance of innovative, character-focused education in shaping responsible and value-driven youth. Building on this perspective, the present study aims to offer practical solutions for modernizing Pancasila education in the digital age. In doing so, it contributes to the broader effort of fostering a generation that not only understands and appreciates the nation's foundational values but is also committed to embodying them in daily life as active, responsible citizens.

2. METHODS

This research method uses a descriptive quantitative approach to analyze the need for the development of AI-based learning media, Avatar Generator, in Pancasila Education (Hasan, 2024). This approach was chosen to systematically and objectively describe the variables related to the needs of students. The scope of this research includes students at the junior high school (SMP) level in Lahat Regency, South Sumatra Province, with the object of research focused on students' understanding of Pancasila Education and their needs for technology-based learning media. The operational definition of each variable that is the focus of the research is as follows: Pancasila understanding is defined as the ability of students to explain and apply Pancasila values in daily life. AI-based learning media is defined as a learning tool or resource that utilizes artificial intelligence technology, such as the AI Avatar Generator, to present learning materials in an interactive and engaging way. Student needs refer to students' expectations and desires for the type of learning media that they consider effective in helping the understanding of Pancasila.

The research site was conducted in several junior high schools in Lahat Regency, with a population that includes all students in junior high schools located in the region. The research sample consisted of students from several schools, namely SMP IT Darussalam as many as 40 students, SMP Purnamasari as many as 15 students, SMP 2 Lahat as many as 40 students, SMP 3 Lahat as many as 65 students, and SMP 6 Lahat as many as 40 students. The main data source in this study is students from the schools mentioned above. The tool used to collect data is a questionnaire that contains a number of questions related to the analysis of the needs of AI-based learning media development. The data collection technique is carried out online using Google Forms, which can be accessed by respondents within a predetermined period of time. This questionnaire consists of closed-ended questions that aim to collect data on students' needs related to AI-based learning media, their expectations for the use of such media in Pancasila Education, and the potential use of AI technology to support student understanding. The data analysis technique used is descriptive analysis, which aims to describe the needs, expectations, and potential for the development of AI-based learning media Avatar Generator in the context of Pancasila Education.

3. FINDINGS AND DISCUSSION

3.1 Findings

The research on the development of learning media based on AI Avatar Generator to support students' understanding of Pancasila education in junior high schools began by analyzing students' opinions on the importance of the subject and their understanding of the material taught (Adiyono, Ni'am, & Anshor, 2024). The results indicate that 80% of students consider Pancasila education a very important subject. Furthermore, 65% of students stated that they felt they understood the material taught in Pancasila education, and 68% of students expressed that they often felt interested in the subject. However, while the majority of students are aware of the importance of Pancasila as a subject, there is still room for improvement in the percentage of those who feel they fully understand the material and have a stronger interest in the subject (Rhosyidah, 2024).

Table 1 Students' Views On Pancasila Education

No	Statement	Information	Percentages
1	I Consider Pancasila Education a very important subject	157	53%
2	I feel that I understand the material taught in Pancasila Education	128	65%
3	I often find myself interested in Pancasila Education lessons	133	68%

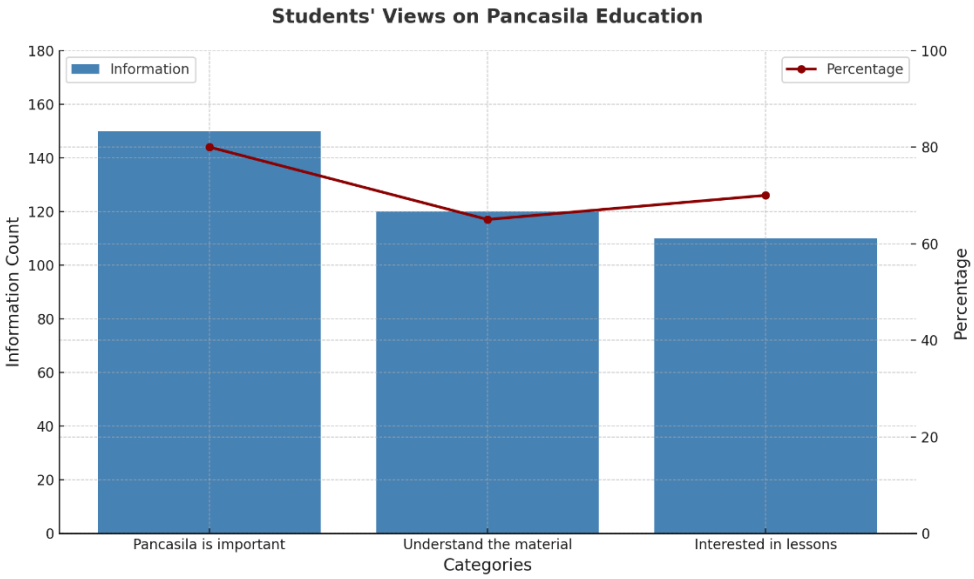

Figure 1 Students' Views On Pancasila Education

The analysis of the teaching methods and learning media used in Pancasila education indicates that the most frequently used method by teachers is presentations, with 41% of respondents indicating that this method is often utilized (Mulyadi Nugraha, Supriatna, & Rindu Fajar Islamy, 2023). However, only 23% of students feel that the method used by their teacher is effective in helping them understand the material of Pancasila education (Indra, 2020). Additionally, only 6% of students mentioned that their teachers often use learning media such as videos, images, and other types of media during teaching (Simanungkalit, Utanto, Tsong, & Jaya, 2023). This analysis highlights that although the presentation method dominates the teaching approach in Pancasila education, the perceived effectiveness of this method is relatively low, and the use of diverse learning media is minimal. Therefore, it is essential to explore alternative teaching methods and increase the use of interactive media to enhance students' understanding and engagement in the subject (Ainur & Mohamad, 2023).

Table 2. Teaching Methods and Learning Media Used

No	Statement	Information	Percentage
1	The method most often used by my tecaher in the learning activities is Presentations	81	41%
2	I feel that the methid used by my teacher is efective in helping me understand Pancasila Education material	45	23%
3	My teacher most often use learning media such as videos, images, and other while teaching	12	6%

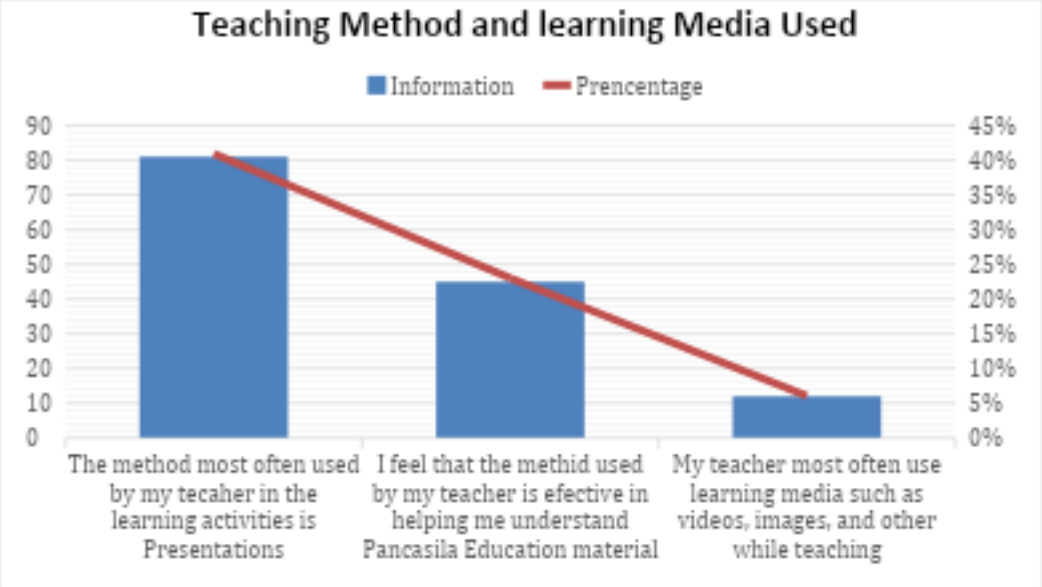

Figure 2. Teaching Metods and Learning Media Used

The analysis of factors influencing students' learning experiences reveals that the most prominent issue reported by students is the lack of engaging learning media, with 54% of respondents highlighting this as a significant concern (Prahesti & Santosa, 2022). This is followed by 29% of students expressing that monotonous teaching methods are affecting their learning experience. Additionally, 27% of students mentioned facing insufficient time for studying, while 25% reported having difficulty understanding the material. These findings indicate that a lack of engaging learning media and the use of monotonous teaching methods are key challenges that need to be addressed to improve students' overall learning experience and comprehension of the material (Muzykant, Burdovskaya, Muzykant, & Muqsith, 2023).

Table 3. Challenges in Understanding Pancasila Education

No	Indicator	Information	Percentage
1	Difficulty in understanding the material	50	25%
2	Lack of engaging learning media	106	54%
3	Monotonous teaching methods	57	29%
4	Insufficient time for studying	53	27%

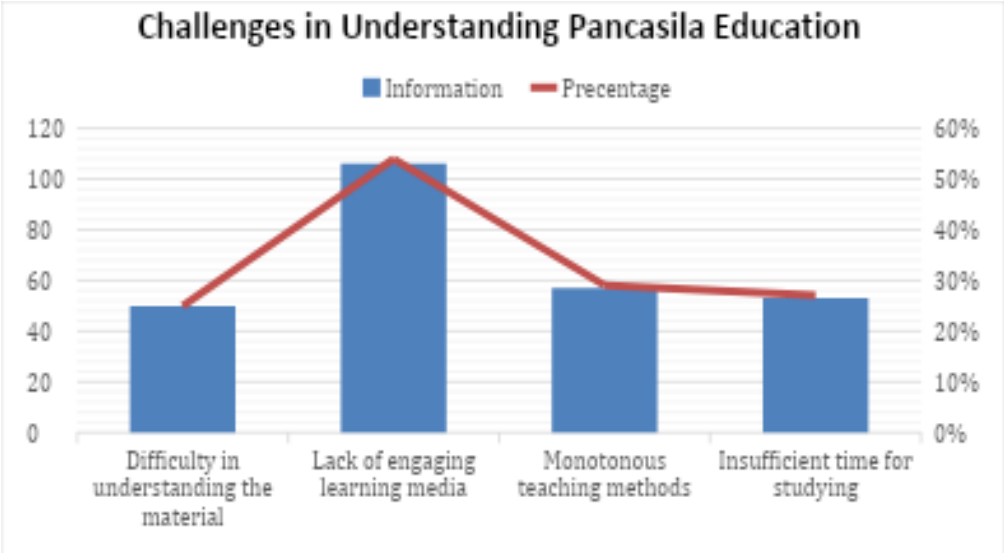

Figure 3. Challenges in Understanding Pancasila Education

The analysis of students' perceptions regarding the use of technology-based learning media, specifically the AI Avatar Generator, indicates that the majority of students, 89%, expressed a strong interest in using technology-based learning media such as the AI Avatar Generator in their learning process (Nurasiah, Sumantri, Nurhasanah, & Casmana, 2022). Furthermore, 85% of respondents believe that the use of avatars can assist them in understanding Pancasila education better. Additionally, 76% of students feel that there is a need for interactive teaching materials based on AI avatars to help them comprehend the subject matter more effectively. These results highlight a positive response from students towards incorporating AI-based learning tools, indicating both a high level of interest and perceived benefits in enhancing their learning experience in Pancasila education(Yunas, 2024).

Table 4. Interest in using Technology in Pancasila Education

No	Statement	Informatio	Percentage
1	I am interested in using technology-based learning media such as AI Avatar Generator in Pancasila Education	174	89%
2	I believe that the use of Avatar can help me in learning Pancasila Education	167	85%
3	I feel the need for interactive teaching materials based on AI Avatare to help me understand the the subject of Pancasila education	145	76%

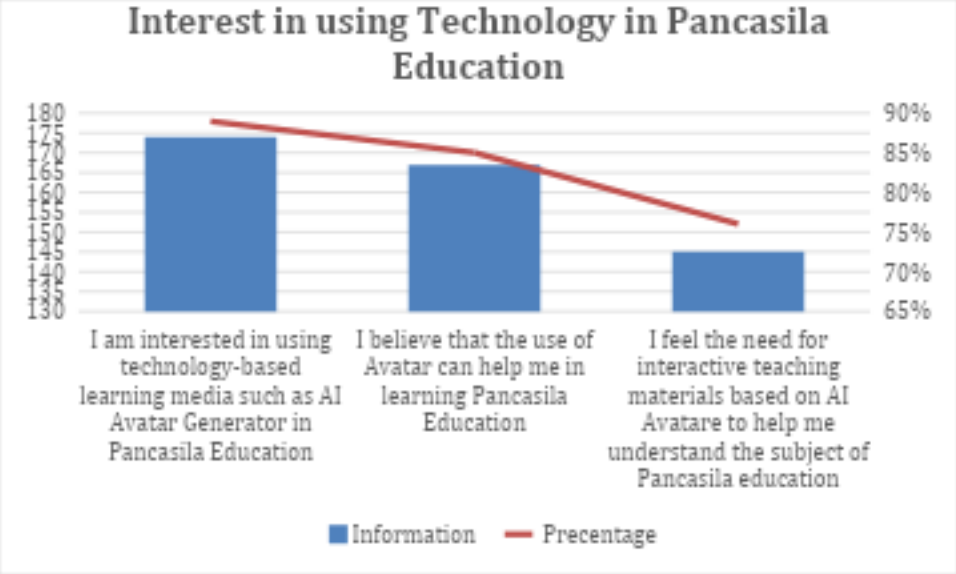

Figure 4 . Interest in Using Technology in Pancasila Education

Finally, the analysis of preferences for interactive learning materials and technology indicates that a significant majority of respondents (76%) expressed a preference for teaching materials delivered through interactive methods. Furthermore, 71% of participants indicated a desire for learning materials to be accompanied by avatar simulations, which aligns with the growing interest in integrating technology into educational practices. Additionally, 70% of respondents feel that teaching materials should be accessible at any time, emphasizing the importance of flexibility in learning. Moreover, 75% agreed that teaching materials should include interactive quizzes, highlighting a strong preference for assessment tools that actively engage students (Rachman, Putro, Rusandi, & Situmorang, 2024). These findings suggest that there is a clear demand for more interactive and accessible learning resources in the context of Pancasila education. The high percentage of respondents favoring interactive methods and technology indicates an opportunity to enhance educational practices by incorporating these elements, which could lead to improved student engagement and understanding(Putri & Pandin, 2021).

Table 5. Preferences for interactive Learning Materials and Technology

No	Statement	Information	Percentage
1	I prefer teaching materials in the form of interactive methods	149	76%
2	I want the learning materials to be accompanied by Avatar simulations	139	71%
3	I feel that the teaching materials should be accessible at any time	137	70%
4	I agree that the teaching materials should be accompanied by interactive quizzes	147	75%

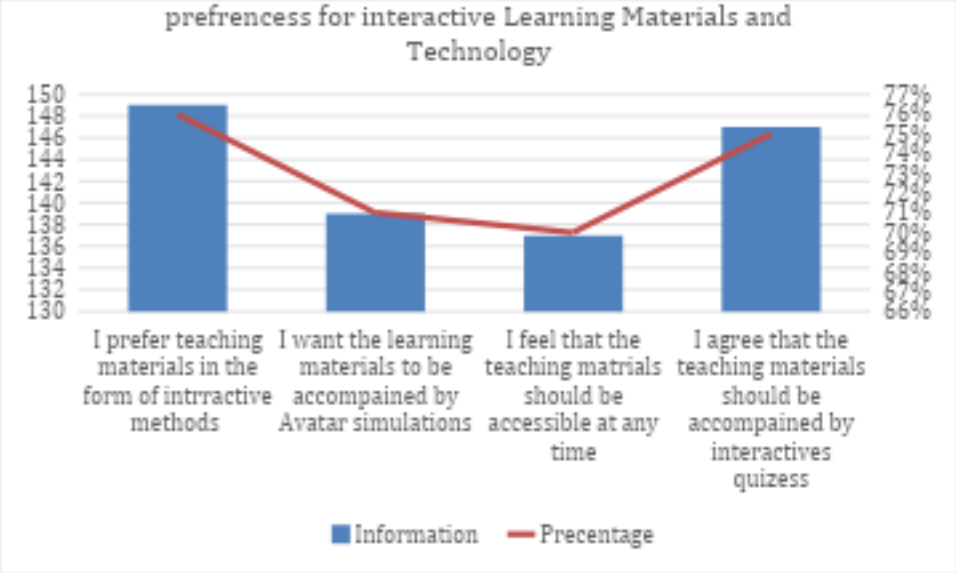

Figure 5. Preferences for interactive Learning Materials and Technology.

Overall, the results of this research indicate that the development of AI Avatar Generator-based learning media has the potential to enhance students' understanding and engagement in Pancasila education. Recommendations for future activities include further integrating technology into the Pancasila education curriculum and providing training for teachers in the use of interactive media to improve teaching effectiveness.

Discussion

The development of AI Avatar Generator-based learning media for Pancasila education requires an analysis that moves beyond generalized theoretical approaches and engages directly with the specific sociocultural context of Indonesia's multicultural society. In addressing the educational needs of students, it is essential to situate the findings within the broader challenges of cultivating Pancasila values across diverse cultural, religious, and ethnic backgrounds. This contextualized approach is vital to ensuring that the integration of digital learning tools meaningfully supports the formation of national identity and civic responsibility.

However, while the initial analysis offers valuable insights, the discussion would benefit from a more critical engagement with the ethical and practical dimensions of implementing AI-based educational media. Key issues such as data privacy, equitable access to digital resources, and the risk of cultural alienation remain underexplored. These concerns are particularly pressing in regions where infrastructure and technological access are limited, potentially exacerbating educational disparities.

To strengthen the discussion, it is recommended that future iterations of this analysis include strategies to ensure inclusivity and accessibility, especially for students in remote or underprivileged areas. Additionally, organizing the discussion into thematic subsections—such as *Educational Theory*, *Technology Integration*, and *Implications for Character Education*—would enhance clarity and allow for a more focused examination of each critical aspect. Such a structure would not only improve the readability of the discussion but also provide a more comprehensive understanding of the educational, technological, and ethical implications of using AI in character education.

Pedagogical Foundations

Constructivist learning theory posits that knowledge is constructed by learners through active engagement with their environment rather than passively absorbed from an instructor. This approach emphasizes the importance of experiential learning, where students gain understanding by interacting with real-world contexts and problem-solving scenarios. AI-driven learning media, such as avatar generators, exemplify these principles by providing a dynamic and interactive platform for education. In the context of Pancasila learning, avatars serve as tools for experiential engagement (Wulandari, Syarifuddin, Chotimah, Sumarni, & Yanzi, 2024). By creating and customizing avatars, students immerse themselves in a virtual environment where they can simulate real-life applications of Pancasila's values. For instance, students could role-play scenarios involving ethical dilemmas, communal decision-making, or problem-solving within diverse cultural settings. This process encourages them to internalize Pancasila principles through exploration and reflection, effectively constructing knowledge through their actions and decisions (Hidayat, Zainuddin, & Mazlan, 2024).

Moreover, AI-generated avatars can adapt to the individual student's level of understanding, allowing for progressive learning experiences. The integration of feedback mechanisms further enhances constructivist learning by helping students analyze their choices and outcomes. This iterative process aligns with the constructivist emphasis on scaffolding gradually increasing complexity to support deeper comprehension. Through this approach, students actively build their cognitive frameworks, linking abstract principles of Pancasila with concrete applications in a manner that resonates personally and socially (Wu, Chen, Chen, & Liu, 2024). Differentiated instruction acknowledges that students have varying learning needs, preferences, and capabilities. It emphasizes the importance of tailoring educational experiences to accommodate these differences, fostering an inclusive learning environment. AI-powered avatar generators provide a unique opportunity to implement differentiated instruction effectively. With avatar customization, students can create digital representations that reflect their personal identities, cultural backgrounds, and learning interests. This personalization is particularly relevant in Pancasila education, where understanding and respecting diversity is a foundational value. By allowing students to see themselves represented in the learning media, avatar generators can enhance engagement and foster a sense of belonging (Falloon, 2024).

Additionally, the flexibility of AI systems enables adaptive learning pathways. For example, a student with a stronger grasp of Pancasila principles might be presented with more complex scenarios that challenge their critical thinking, while a student who requires more foundational understanding might engage with simpler, scaffolded activities. This adaptability ensures that each learner progresses at their own pace, maximizing the effectiveness of the learning experience. AI-driven platforms can also incorporate multiple modes of content delivery such as text, audio, and visual elements—to address different learning styles (e.g., auditory, visual, or kinesthetic). For example, students might choose to narrate their avatar's actions or visualize ethical dilemmas through animations, making the learning process more accessible and engaging for a diverse student population. Incorporating differentiated instruction through AI avatar generators not only enhances inclusivity but also fosters deeper learning. By aligning with students' unique needs and preferences, this approach supports the holistic development of their understanding of Pancasila, empowering them to embody its principles in diverse real-world contexts (Conner et al., 2024).

Technological Integration in Education

The Technology Acceptance Model (TAM) explains how users accept and adopt technology based on two key factors: perceived usefulness and perceived ease of use. Perceived usefulness reflects how much users believe technology enhances their performance, while perceived ease of use refers to how effortless it feels to interact with the system. In the context of Pancasila learning media, AI avatar generators exemplify these principles. Their usefulness is apparent in their ability to make learning more interactive and engaging by simulating real-life scenarios where Pancasila principles are applied.

This practical connection between theoretical knowledge and its application can enhance students' understanding and retention. Additionally, ease of use is ensured through intuitive interfaces and accessible features, allowing students to customize avatars and interact with the platform without technical difficulties (Ratna, Waty, Nengsih, & Handrianto, 2024). Familiarity with digital tools among students further increases their readiness to adopt this technology, especially when the design resonates with the aesthetics and functionality of platforms they already use, such as social media or games. By focusing on user-centered design, AI avatar generators not only meet the technical requirements of TAM but also align with students' preferences, ensuring effective and widespread adoption (Mertala, 2017).

Gamification enhances the learning experience by incorporating game-based elements such as personalization, progression, and feedback, thereby transforming traditional educational activities into interactive and engaging processes. In the context of Pancasila education, AI avatar generators exemplify this approach by reimagining content delivery through personalized digital interaction. Personalization enables students to design avatars that mirror their individual identities, fostering a stronger emotional connection to the learning material and encouraging deeper engagement. Progression mechanisms—such as earning rewards, unlocking new features, or advancing through levels—serve to sustain student motivation. For instance, students might gain access to advanced challenges or avatar customization options after successfully navigating simulated ethical dilemmas rooted in Pancasila values.

Real-time feedback and digital recognition, such as virtual badges awarded for demonstrating principles like fairness, cooperation, or integrity, reinforce positive behavior and provide a sense of achievement. Additionally, integrating collaborative and competitive features—such as group challenges or peer comparisons—can further enrich the learning experience by promoting social interaction and teamwork. By gamifying the process of learning Pancasila, AI-driven educational media not only make learning more enjoyable but also support the internalization of core national values. This approach enhances the relevance of civic and character education in the digital era, aligning pedagogical strategies with the preferences and expectations of today's learners (Zharylgassova, Assilbayeva, Saidakhmetova, & Arenova, 2021).

Cultural and Character Education

Cultural-Historical Activity Theory (CHAT) emphasizes the importance of understanding human development within the context of socio-cultural activities. Learning and development, according to CHAT, are deeply influenced by the cultural tools, practices, and social interactions available to learners. In the development of AI-based Pancasila learning media, this theory highlights the need to embed the socio-cultural contexts of Indonesian learners into the design of educational tools. By integrating avatars that reflect Indonesia's rich cultural heritage such as traditional attire, local customs, and historical symbols—students can engage with content that resonates with their cultural identity. These culturally tailored avatars help students form a deeper emotional connection to the values and principles of Pancasila, fostering a sense of pride and belonging. Moreover, the interactive nature of AI allows students to participate in scenarios reflecting Indonesia's diverse cultural landscapes, enabling them to practice Pancasila principles, such as tolerance and unity, in virtual environments that mirror their real-world experiences. CHAT also underscores the importance of mediated learning through tools and interactions. AI-driven learning media act as mediational tools that bridge abstract concepts of Pancasila with concrete applications. For instance, avatars could navigate challenges like resolving communal disputes or participating in cultural festivals, encouraging students to apply Pancasila principles in simulated but contextually relevant situations. This approach not only enhances engagement but also aligns with CHAT's focus on learning as a socially situated and culturally informed process (Bahri, Thahira, & Taqwadin, 2024).

Character education frameworks aim to develop ethical, moral, and civic competencies among learners, preparing them to contribute positively to society. Pancasila, as the foundation of Indonesia's

state ideology, embodies core values such as integrity, mutual respect, social justice, and national unity. Embedding these values into AI-driven learning media ensures that character education remains central to the educational experience. Through AI avatar generators, students can engage with scenarios that require them to make ethical decisions, collaborate with others, and demonstrate empathy—practices that directly align with character education goals. For example, students might use their avatars to participate in activities such as mediating a conflict between two virtual communities or organizing a community event that celebrates diversity. These scenarios not only teach practical applications of Pancasila values but also promote moral development in a way that resonates with tech-savvy youth. By interacting with AI tools, students develop digital literacy alongside ethical reasoning, ensuring that their character development keeps pace with technological advancements(Eko Setiono, Zahidah Ismah Nabilah, Febriana Fitri, Aniek Indrawati, & Ludi Wishnu Wardana, 2023).

Furthermore, character education frameworks emphasize the importance of reflection and feedback. AI-driven platforms can provide personalized feedback on students' decisions and actions within the learning environment, encouraging self-awareness and reinforcing positive behaviors. This feedback loop helps students internalize the values of Pancasila in a meaningful way, fostering lifelong moral and civic competencies. By embedding character education into digital learning formats, AI-based tools address the dual challenge of preserving cultural values while preparing a generation that is both morally grounded and digitally adept(Lia Anggraini Mulyono, Bhima Erlangga Sukma Prayoga, Aniek Indrawati, Ludi Vishnu Wardana, & Angga Martha Mahendra, 2023).

Responding to Digital Era Challenges:

The 21st-Century Skills Framework emphasizes the critical competencies students need to thrive in a rapidly evolving, technology-driven world. These skills include digital literacy, critical thinking, creativity, collaboration, and communication. Integrating AI tools like avatar generators into education directly supports the development of these competencies while aligning with the goals of modern education. Through interaction with AI avatar generators, students enhance their digital literacy by navigating and utilizing advanced digital platforms. They become familiar with customizing avatars, exploring virtual environments, and engaging in simulations, all of which require them to operate effectively within a digital ecosystem. These experiences prepare them for future interactions with more complex technologies, fostering confidence and adaptability in a tech-centric landscape (Silva, Zagalo, & Mário Vairinhos, 2023).

Critical thinking is cultivated as students use their avatars to solve problems, make decisions, and evaluate outcomes in scenarios rooted in Pancasila values. For instance, students may encounter a simulation where they need to resolve a communal conflict or navigate ethical dilemmas, prompting them to analyze situations and consider the consequences of their actions. Such activities challenge them to think deeply and make reasoned judgments, essential skills for both personal and professional success in the 21st century. Additionally, creativity is central to the avatar-based approach. By designing avatars that reflect their identity and cultural heritage, students engage in creative expression. They are encouraged to think innovatively about how to represent themselves and apply Pancasila principles in diverse and imaginative ways within the virtual environment. This not only enhances their creativity but also reinforces their connection to Indonesian cultural values (Behie et al., 2023).

In an interconnected and multicultural digital world, global competence, the ability to understand, appreciate, and interact effectively with people from diverse cultural backgrounds has become a crucial educational goal. The avatar-based approach aligns seamlessly with this need, enabling students to explore cultural diversity while staying grounded in their own identity. By allowing students to create avatars that reflect Indonesian cultural heritage, the tool reinforces their understanding and appreciation of their national identity. At the same time, it encourages them to engage with simulated global contexts that mirror real-world diversity. For example, students might participate in scenarios where avatars representing different cultural backgrounds collaborate to solve shared problems. This

fosters empathy, respect, and the ability to work across cultural boundaries, skills essential for thriving in a globalized society (Admass, Munaye, & Diro, 2024).

The platform also provides opportunities to explore the dual challenge of upholding cultural identity while participating in global discourse. Students learn to navigate the tensions between maintaining their Pancasila-based values—such as unity in diversity—and addressing global issues like environmental sustainability or social justice. By interacting in a digital world that mirrors global complexity, they develop a nuanced understanding of how to balance local and global perspectives effectively. In essence, integrating AI avatar generators into Pancasila learning equips students not only with the technical and cognitive skills needed for the future but also with the intercultural competence to navigate a diverse, interconnected world. This dual emphasis ensures that they emerge as individuals who are technologically adept, globally aware, and deeply rooted in the values of Pancasila.

Ethical and Psychological Considerations

The integration of AI tools in education must be guided by a strong ethical framework to ensure that these technologies are used responsibly and inclusively. Ethical considerations include data privacy, inclusivity, and cultural sensitivity, all of which are critical in the design and implementation of AI-driven learning media. Data privacy is paramount, particularly in education, where sensitive information about students is often involved. AI systems must adhere to strict data protection standards, ensuring that student data is collected, stored, and used securely and transparently. Features like anonymization and encryption should be integrated into the design of AI tools to protect users' identities and prevent unauthorized access. In the context of Pancasila learning media, this also involves ensuring that students' personal data, including their avatar designs and activity logs, are handled responsibly to build trust and confidence in the technology (Langer, Marshall, & Levy-Tzedek, 2023).

Inclusivity is another critical ethical concern. AI tools must be accessible to all students, regardless of socioeconomic background, disability, or technological familiarity. The design of avatar generators should ensure that diverse representations are possible, allowing students from various ethnic, cultural, and social backgrounds to see themselves reflected in the digital environment. For example, offering a wide range of skin tones, cultural attire, and physical attributes ensures that the media is welcoming and affirming for all users. Cultural sensitivity must be central to the development process to avoid cultural dilution or misrepresentation. Avatars should authentically reflect Indonesian heritage, such as traditional clothing, regional symbols, and culturally significant elements. By doing so, the tools can promote national identity and pride while fostering a deeper connection to Pancasila principles. This focus on cultural authenticity not only enhances the tool's effectiveness but also ensures that it respects and upholds the cultural values it seeks to teach (Nii Laryeafio & Ogbewe, 2023).

The psychological impact of AI-driven avatars on students' identity and self-concept is profound. Avatars act as digital extensions of the self, offering students a platform for self-expression and exploration in a safe and controlled environment. By allowing students to customize avatars to reflect their personal and cultural identity, the tools reinforce a sense of belonging and pride in their individuality and heritage. Creating and personalizing avatars enables students to engage with Pancasila principles in a manner that feels personal and meaningful. For instance, a student might design an avatar wearing traditional Batik to symbolize national pride or integrate elements that reflect their regional identity, such as Papuan or Javanese attire. These digital representations can help students connect abstract values like unity in diversity to their own lived experiences, deepening their understanding and emotional connection to Pancasila.

Furthermore, the process of avatar creation encourages self-reflection and exploration of ethical and cultural values. By making choices about how their avatars interact with others in simulations or role-playing scenarios, students actively engage with questions about fairness, justice, and mutual respect—core elements of Pancasila. This helps them internalize these principles in ways that are both cognitively engaging and emotionally resonant. In a broader sense, avatars provide a space for students

to explore and reinforce their role in a digital society, helping them build confidence in their ability to navigate and contribute to complex social and cultural landscapes. This dual focus on identity and self-concept ensures that the use of AI in Pancasila education not only enhances learning outcomes but also supports the holistic development of students as ethical, culturally grounded, and self-aware individuals.

The integration of AI avatar generators in Pancasila learning media represents a convergence of pedagogical innovation and technological sophistication, addressing both educational and cultural imperatives. The theoretical frameworks discussed provide a solid foundation for understanding the potential of this approach to cultivate a generation that is not only technologically adept but also deeply characterized by the values of Pancasila. As Indonesia navigates the digital era, such initiatives become crucial in preserving its cultural heritage while fostering a future-ready citizenry.

4. CONCLUSION

This study on the development of AI Avatar Generator-based learning media to enhance junior high school students' understanding of Pancasila education has yielded important insights. The findings indicate that while 80% of students acknowledge the importance of Pancasila education, only 65% report a full understanding of the material, suggesting a gap between recognition and comprehension. Traditional teaching methods, particularly presentation-based approaches, remain dominant but are viewed as less effective by a portion of students, with 23% expressing dissatisfaction. Moreover, the limited use of diverse instructional media highlights the need for more interactive and engaging learning tools. Notably, 89% of students expressed strong interest in integrating AI Avatar Generator technology into their learning, underscoring the potential of gamified, personalized digital tools to enhance motivation and learning outcomes. However, this study is limited by its focus on a specific regional context and reliance on quantitative data from self-reported surveys, which may not fully capture the depth of student experiences or the nuances of classroom implementation. Future research should explore the long-term impact of AI-based learning media through mixed-methods approaches, including classroom observations and interviews, and consider broader demographic and geographic samples. Additionally, further studies should examine issues of accessibility, digital equity, and the ethical implications of AI use in education to ensure inclusive and responsible implementation.

REFERENCES

Adiyono, A., Ni'am, S., & Anshor, A. M. (2024). Islamic Character Education in the Era of Industry 5.0: Navigating Challenges and Embracing Opportunities. *Al-Hayat: Journal of Islamic Education*, *8*(1), 287. https://doi.org/10.35723/ajie.v8i1.493

Admass, W. S., Munaye, Y. Y., & Diro, A. A. (2024). Cyber security: State of the art, challenges and future directions. *Cyber Security and Applications*, *2*(October 2023), 100031. https://doi.org/10.1016/j.csa.2023.100031

Ainur, R., & Mohamad, K. (2023). Education in the Digital Age: Navigating Challenges and Cultivating Character Values for the Next Generation. *Indonesian Journal of Education and Social Studies*, *1*(2), 63–74. https://doi.org/10.33650/ijess.v1i2.7083

Akhuai, W., Nugraha, A. A., Lukitaningtyas, Y. K. R. D., Ridho, A., Wulansari, H., & Al Romadhona, R. A. (2022). Social Capital of Pancasila Education in Smart Education with Social Media in Cybercrime Prevention in the Industrial Revolution Era 4.0. In *Jurnal Panjar: Pengabdian Bidang Pembelajaran* (Vol 4). https://doi.org/10.15294/panjar.v4i2.55047

Aprita, N., Akhiroh, M., Muslim, S. A., & Nurlaila, E. (2024). Citizenship Education in the Era of Society 5.0 with the Strengthening of anti-State Attitudes for Elementary School Students. *A Contextual Approach to Human Development*, *1*(1), 184–202. https://doi.org/10.4324/9781003441168-13

Bahri, S., Thahira, Y., & Taqwadin, D. A. (2024). Father'S Role and Character Education: a Reflective Analysis of the Qur'Anic Stories. *Jurnal Ilmiah Islam Futura*, *24*(1), 102–128.

https://doi.org/10.22373/jiif.v24i1.13785

Behie, S. W., Pasman, H. J., Khan, F. I., Shell, K., Alarfaj, A., El-Kady, A. H., & Hernandez, M. (2023). Leadership 4.0: The changing landscape of industry management in the smart digital era. *Process Safety and Environmental Protection*, *172*(August), 317–328. https://doi.org/10.1016/j.psep.2023.02.014

Budiarti, M. (2023). The Urgency of Digital Literacy in Developing Character Education for Youth in Society 5.0. *Proceedings 4 rd UIN Imam Bonjol International Conference on Islamic Education*, *1*(1), 125–143.

Chandra, L. D., Pargito, P., Yulianti, D., & Maulina, D. (2024). Development of Animation Learning Media Based on PBL to Improve Thematic Learning Outcomes Students. *IJORER : International Journal of Recent Educational Research*, *5*(3), 702–714. https://doi.org/10.46245/ijorer.v5i3.600

Conner, J., Mitra, D. L., Holquist, S. E., Rosado, E., Wilson, C., & Wright, N. L. (2024). The pedagogical foundations of student voice practices: The role of relationships, differentiation, and choice in supporting student voice practices in high school classrooms. *Teaching and Teacher Education*, *142*(March), 104540. https://doi.org/10.1016/j.tate.2024.104540

Eko Setiono, Zahidah Ismah Nabilah, Febriana Fitri, Aniek Indrawati, & Ludi Wishnu Wardana. (2023). Entrepreneurship Character Education in Elementary Schools: Systematic Literature Review (SLR). *International Journal of Education, Language, Literature, Arts, Culture, and Social Humanities*, *1*(2), 53–65. https://doi.org/10.59024/ijellacush.v1i2.81

Falloon, G. (2024). Investigating pedagogical, technological and school factors underpinning effective 'critical thinking curricula' in K-6 education. *Thinking Skills and Creativity*, *51*(December 2023), 101447. https://doi.org/10.1016/j.tsc.2023.101447

Firdaus, & Hermawan. (2023). The Relevance of the Book of Ta'liim Al-Muta'allim in Character Building in the Era of Industrial Revolution 4.0. *Amin: Journal International Islamic Education & Knowledge Integration*, *1*(2), 51–59.

Hasan, K. (2024). Quantitative Methods in Social Science Research: Systematic Review of Content Analysis, Survey and Experiment Methodologies. *SSRN Electronic Journal*, (February). https://doi.org/10.2139/ssrn.4698175

Hidayat, R., Zainuddin, Z., & Mazlan, N. H. (2024). The relationship between technological pedagogical content knowledge and belief among preservice mathematics teachers. *Acta Psychologica*, *249*(July), 104432. https://doi.org/10.1016/j.actpsy.2024.104432

Indra, H. (2020). Challenges and response in islamic education perspective in the digital media era. *ATTARBIYAH: Journal of Islamic Culture and Education*, *5*(1), 31–42. https://doi.org/10.18326/attarbiyah.v5i1.31-42

Laila, N. F., & Saraswati, S. (2024). Development of Mathematic Literature Questions Based on Profile of Pancasila Students with The Digital Quiz Platform Kahoot. *Inovasi Matematika (Inomatika)*, *6*(2). https://doi.org/10.35438/inomatika.v6i2.471

Langer, A., Marshall, P. J., & Levy-Tzedek, S. (2023). Ethical considerations in child-robot interactions. *Neuroscience and Biobehavioral Reviews*, *151*(May), 105230. https://doi.org/10.1016/j.neubiorev.2023.105230

Lia Anggraini Mulyono, Bhima Erlangga Sukma Prayoga, Aniek Indrawati, Ludi Vishnu Wardana, & Angga Martha Mahendra. (2023). Internalization of Character Education during the Covid-19 Pandemic through Entrepreneurship Education: Systematic Literature Review (SLR). *International Journal of Education, Language, Literature, Arts, Culture, and Social Humanities*, *1*(1), 45–63. https://doi.org/10.59024/ijellacush.v1i1.83

Mertala, P. (2017). Wag the dog – The nature and foundations of preschool educators' positive ICT pedagogical beliefs. *Computers in Human Behavior*, *69*, 197–206. https://doi.org/10.1016/j.chb.2016.12.037

Mulyadi Nugraha, D., Supriatna, A., & Rindu Fajar Islamy, M. (2023). Educating Pancasila Values To the Digital Generation in Facing the Society 5.0 Era. *JHSS (Journal of Humanities and Social Studies)*,

07(02), 653–660.

Muzykant, V., Burdovskaya, E., Muzykant, E., & Muqsith, M. A. (2023). Digital Threats and Challenges to Netizens Generation Media Education (Indonesian Case). *Media Education (Mediaobrazovanie)*, *19*(1), 97–106. https://doi.org/10.13187/me.2023.1.97

Nii Laryeafio, M., & Ogbewe, O. C. (2023). Ethical consideration dilemma: systematic review of ethics in qualitative data collection through interviews. *Journal of Ethics in Entrepreneurship and Technology*, *3*(2), 94–110. https://doi.org/10.1108/jeet-09-2022-0014

Noptario, Ade Tinofa, N., Khoirotun Nisa, A., Abdullah, F., & Nazri bin Nordin, T. S. (2024). Revitalizing Digital-Based Basic Education in an Effort To Strengthen Students' Critical and Creative Thinking in the Pancasila Student Profile Program At Madrasah Ibtidaiyah. *Al-Bidayah : Jurnal Pendidikan Dasar Islam*, *16*(1), 1–18. https://doi.org/10.14421/al-bidayah.v16i1.9556

Novianto, V., Mostafa, ; Ali, & Purwanta, H. (2023). Comparative Study of Post-Marriage Nationality Of Women in Legal Systems of Different Countries International Journal of Multicultural and Multireligious Understanding Character Education in the Metaverse Generation in the "Larung Sesaji" Tradition in Gun. *International Journal of Multiculctural and Multireligious Understanding*, *10*(2), 74–83. Opgehaal van http://ijmmu.comhttp//dx.doi.org/10.18415/ijmmu.v10i2.4369

Nurasiah, I., Sumantri, M. S., Nurhasanah, N., & Casmana, A. R. (2022). Cultural Values' Integration in Character Development in Elementary Schools: The Sukuraga as Learning Media. *Frontiers in Education*, *7*(May). https://doi.org/10.3389/feduc.2022.849218

Pajriah, S., Suryana, A., & Shavab, O. A. K. (2023). The Importance of Character Education Through History Education in the Era of the Industrial Revolution 4.0. *International Journal of Multicultural and Multireligious Understanding*, *10*(11), 211. https://doi.org/10.18415/ijmmu.v10i11.5231

Prahesti, V. D., & Santosa, S. (2022). the Challenge of Educating on the Character of Students in Facing the Society Era 5.0. *Fenomena*, *21*(2), 247–254. https://doi.org/10.35719/fenomena.v21i2.102

Putri, R. E., & Pandin, M. G. R. (2021). Analizing The Importance of Character Education for Millennial Generations in The Digital Era. *Preprints*, (June). https://doi.org/10.20944/preprints202106.0348.v1

Rachman, A., Putro, H. Y. S., Rusandi, M. A., & Situmorang, D. D. B. (2024). The development and validation of the "Kuesioner Tema Proyek Penguatan Profil Pelajar Pancasila" (KT P5): A new tool for strengthening the Pancasila Student Profile in Indonesian pioneer schools. *Heliyon*, *10*(16), e35912. https://doi.org/10.1016/j.heliyon.2024.e35912

Ratna, E., Waty, K., Nengsih, Y. K., & Handrianto, C. (2024). An In-Depth Analysis of the Students ' Perceptions of How the Final Exam Administered in Package C Program. *Journal of Nonformal Education*, *10*(2), 434–444.

Rhosyidah, N. T. M. T. (2024). Islamic religious education learning innovations in strengthening character education in the Industrial Revolution Era 4.0. *DWIJA CENDEKIA Jurnal Riset Pedagogik*, *8*(1), 205–216. https://doi.org/10.20961/jdc.v8i1.85858

Sari, D. I., Rejekiningsih, T., & Muchtarom, M. (2020). *The Concept of Human Literacy as Civics Education Strategy to Reinforce Students' Character in the Era of Disruption*. *397*(Icliqe 2019), 1132–1141. https://doi.org/10.2991/assehr.k.200129.140

Silva, C., Zagalo, N., & Mário Vairinhos. (2023). Towards participatory activities with augmented reality for cultural heritage: A literature review. *Computers & Education: X Reality*, *3*(June), 100044. https://doi.org/10.1016/j.cexr.2023.100044

Simanungkalit, I., Utanto, Y., Tsong, C. K., & Jaya, C. A. (2023). Transformation of Education: Educator and Technology in Era Society5.0. *Journal of Curriculum Indonesia*, *6*(2), 174–183. Opgehaal van https://www.hipkinjateng.org/jurnal/index.php/jci/article/view/99

Wu, D., Chen, M., Chen, X., & Liu, X. (2024). Analyzing K-12 AI education: A large language model study of classroom instruction on learning theories, pedagogy, tools, and AI literacy. *Computers and Education: Artificial Intelligence*, *7*(May), 100295. https://doi.org/10.1016/j.caeai.2024.100295

Wulandari, U., Syarifuddin, S., Chotimah, U., Sumarni, S., & Yanzi, H. (2024). Exploring Pancasila Students Profile Character through Multiple Learning Objects in History Education. *International*

Journal of Multicultural and Multireligious Understanding, *11*(3), 262. https://doi.org/10.18415/ijmmu.v11i3.5575

Yulia, R., Henita, N., Gustiawan, R., & Yeni Erita. (2022). Efforts to Strengthen Character Education for Elementary School Students by Utilizing Digital Literacy in Era 4.0. *Journal of Digital Learning and Distance Education*, *1*(6), 240–249. https://doi.org/10.56778/jdlde.v1i6.39

Yunas, N. S. (2024). *The Existence of Pancasila Values and its Threats in the Digital Space of the Millenial Generation*. *9*(1), 1–12.

Zharylgassova, P., Assilbayeva, F., Saidakhmetova, L., & Arenova, A. (2021). Psychological and pedagogical foundations of practice-oriented learning of future STEAM teachers. *Thinking Skills and Creativity*, *41*, 100886. https://doi.org/10.1016/j.tsc.2021.100886.